```
tgacctgctt ccatgctgca tctgctgctt tttgtgttga tgggactcag aaatcatgag    1260
aaaggtcttc agtgatccat gactgcaaca aattctttc ctaattgtgc cgtatattat     1320
gcccctcaat acaacttact aatctctgcc tcagtttctc catctgtgaa agtggtgtaa    1380
tacttatcta cctcccttga atgttgtgaa gattagtata tgttggtaaa gcacttttaa    1440
aataaagaat gatataaagc attg                                          1464
```

<210> 5393
<211> 565
<212> DNA
<213> Homo sapiens

```
<400> 5393
agcctgtgaa gactagtctt cctttgaaaga aaagatcctt ttgtaaggat ttatgttctt    60
aatttagttt ttaccaaatg gacccttta gagaaagaag catcaggata aagtcccaat     120
cttcagtggt ttgtggaaga gagaatctga tgattcatgc cctcctaccc tgttagaatt    180
aggacaggga atggcagacc ctaaacatac atgtgaactg agcaaagatt gcctttgctt    240
cacctattga cacatttaag aacctcgttt tatagagagt acggagtggg gtctgagatt    300
ctacatttct tacaagttcc tggtttatgc cagttctgtt tgtctggtca ccacacttct    360
gaatagcaag gtttcagagg actctatgaa gtttttattt ctcaaaaatt tggcttaggt    420
acatctttac atacagtggt gctagatatt attctttcag aacttaacca tgcaacaatg    480
cagaagaata caaaaaatgc ttgcacacag tagtgtattt taatggaact ataaaagcat    540
tgaactgatt cctaacttta catat                                         565
```

<210> 5394
<211> 565
<212> DNA
<213> Homo sapiens

```
<400> 5394
agcctgtgaa gactagtctt cctttgaaaga aaagatcctt ttgtaaggat ttatgttctt    60
aatttagttt ttaccaaatg gacccttta gagaaagaag catcaggata aagtcccaat     120
cttcagtggt ttgtggaaga gagaatctga tgattcatgc cctcctaccc tgttagaatt    180
aggacaggga atggcagacc ctaaacatac atgtgaactg agcaaagatt gcctttgctt    240
cacctattga cacatttaag aacctcgttt tatagagagt acggagtggg gtctgagatt    300
ctacatttct tacaagttcc tggtttatgc cagttctgtt tgtctggtca ccacacttct    360
gaatagcaag gtttcagagg actctatgaa gtttttattt ctcaaaaatt tggcttaggt    420
acatctttac atacagtggt gctagatatt attctttcag aacttaacca tgcaacaatg    480
cagaagaata caaaaaatgc ttgcacacag tagtgtattt taatggaact ataaaagcat    540
tgaactgatt cctaacttta catat                                         565
```

<210> 5395
<211> 240
<212> DNA
<213> Homo sapiens

```
<400> 5395
gatcacgagg tcaggagatc gagaccatcc tggctaacac ggtgaaaccc catctctaac    60
taaaaataca aaaaattacc cgggcgtggt ggcgggcacc tgtagtccca gctactcggg   120
aggctgaggc aggagaatgg tgtgaaccca ggagacggag cttgcaatga gccgagatcg   180
cgccactgca ctctagcctg ggcgacagag caagactccg tctcaaaaac aaaaaaaaaa   240
```

<210> 5396
<211> 1275
<212> DNA
<213> Homo sapiens

<400> 5396

```
cagaattcct ttctcatatt tcaagtgtcc ctgtgaatta tgaggggaaa aaaatcttta    60
ttaaagaaaa aagtgaaaat aaatatgcat ggatacttgg attttctttt tagtaacaaa   120
gatatttaaa ttatttgtat acacacacac acacacacac acacacacac acacgtatct   180
gtacctagaa atgtttatag gggaggtcag ttttctgaag attaaatgca gccctaatgt   240
cagattaatg ttataaacac atcgtttaat cacaagtttt cagagagcag gctccacaga   300
tagtctctaa ctttctatca ttacaaatcg ctatttttat atcattgcta atttaaataa   360
taaagtaaat tatgaagagg aatcattggt tgcaagtcac catgggagtt tagtccctgt   420
gaaaatataa agcatttaaa taatttgtat tcttttacca tttttttatta catctctttta   480
attttttgtca cttgaatata ttaggatgat gatgatacta taatcactgg aacaaagaca   540
tttgcttgga catctttttct ttttttccccc atttttgttc tgttaataat ttttaactat   600
agctttttcct ttcttgtcct tatctgtccc ttatcgatca tagatagttt cactactatt   660
tttaagtttt tattgttaaa ttgaagatga atctgtacag ttacttgtga attaagatgc   720
agctaagtta aaatcaagta taattttgaa gctgatttta catttaacta gatgattaaa   780
tatattttttt caggtgcttc ttcaatttaa atcaagtttt atggtttcag caaaatttag   840
aaaatatgta ctttacctaa aaacttttct tttagtgctt tggatatata cagaagctta   900
aatgagtaga gtatcccaaa catccagatg cttctcaaaa tagcatttcc ggccgggcgc   960
ggtggctcac gcctgtaatc ccagcacttt gggaggccga ggcgggcgga tcacgaggtc  1020
aggagatcga gaccatcccg gctaaaacgg tgaaaccccg tctctactaa aaatacaaaa  1080
aattagccgg gcgtagtggc gggcgcctgt agtcccagct acttgggagg ctgaggcagg  1140
agaatagcgt gaacccggga ggcggagctt gcagtgagcc gagatcccgc cactgcactc  1200
cagcctgggc gacagagcga gactccgtct caaaaaaaaa aaaaaaaaaa aaaaaaaaaa  1260
aaaaaaaaaa aaaaa                                                    1275


<210> 5397
<211> 242
<212> DNA
<213> Homo sapiens

<400> 5397
tcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaaccccg tctctactaa    60
aaatacaaaa aattagccgg gcgaggtggc gggcgcctgt agtcccagct actcgggagg   120
ctgaggcagg agaatggcgt gaaccccagg gggcggagcc tgcagtgagc cgagattgcg   180
ccactgcact ccagcctggg cgacagcgag actccgtctc aaaaaaaaaa aaaaaaaaag   240
gc                                                                  242


<210> 5398
<211> 90
<212> DNA
<213> Homo sapiens

<400> 5398
gatcgcgcca ctgcactcca gcctgggcgg cagagagaga ctccgtctca aaaaaaaaaa    60
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa                                     90


<210> 5399
<211> 181
<212> DNA
<213> Homo sapiens

<400> 5399
aattagccgg gcgtggtggc aggcgcctgt agtcccagct acttgggagg ctgaggcagg    60
agaatggcgt gaaccaggga ggcggagctt gcagtgagct gagatcgcgc cactgcactc   120
cagcctgggc gacagggcaa gactccgtct caaaaaaaaa aaaaaaaaaa aaaaaattgt   180
g                                                                   181


<210> 5400
<211> 142
```

2502

<212> DNA
<213> Homo sapiens

<400> 5400
cgggcgcctg tagtcccagc tactcgggag gctgaggcag gagaatggcg tgaacccagg   60
aggtggagct tgcagtgagc cgagattgtg ccactgaact ccagcctggg cgacagagcg   120
agactctgtc tcaaaaaaac aa   142

<210> 5401
<211> 295
<212> DNA
<213> Homo sapiens

<400> 5401
ggccgggtgc agtggctcac acctgtaatc ccagcacttt gggaggctga ggtgggcaga   60
gcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaacccca tctctactaa   120
aaatacaaaa aattagccag gcgtggtggc gggtgcctgt agtcccagct actcgggagg   180
ctgaggccag agaatggcgt gaacccggga ggcggagctt ccagtgagcc gagatcatgc   240
cactgcactc cagcctgggc aacagagcga gactccgtct caaaaaacaa aacaa   295

<210> 5402
<211> 319
<212> DNA
<213> Homo sapiens

<400> 5402
tttggccggg cgcggtggct cacgcctgta atcccagcac tttgggaggc agaggcgggc   60
ggatcatgag gtcaggagat cgagaccatc ctggctaaca cagtgaaacc ccgcctctac   120
taaaaataca aaaaattagc cgggcgtggt ggcgggcgcc tgtagtccca gctactcggg   180
aggctgaggc gggagaatgg cgtgaacccg ggaggcggag cttgcagtga gccgagatcg   240
cgccactgca ctccagcctg gcgacagag cgagactccg tctcaaaaaa aaaaaagaaa   300
aaaaaaaaaa agagcacaa   319

<210> 5403
<211> 316
<212> DNA
<213> Homo sapiens

<400> 5403
gaattcttgg ccgggcacgg tggctcacgc ctgtaatccc agcactttgg gaggccgagg   60
cgggcggatc acgaggtcag gagatcgaga ccatcctggc taacacggtg aaaccccgtc   120
tctactaaaa atacaaaaaa ttagccgggc gtggtagcgg cgcctgtag tcccagctac   180
tcgggaggct gaggcaggag aatggcgtga acctggcagg cggagcttgc agtgagccga   240
gatcgcgcca ctgcactcca gcctgggtga cagagcgaga ctccgtctca aaaaaaaaa   300
aaaaaaaaaa gaattc   316

<210> 5404
<211> 102
<212> DNA
<213> Homo sapiens

<400> 5404
gaggttgcag tgagctgaga tcacgccact gcactccagc ctgggtgaca gagcaagact   60
ccatctcaaa aaaaaaaaaa aaaaaaaaaa aaactaataa tc   102

<210> 5405

2503

```
<211> 322
<212> DNA
<213> Homo sapiens

<400> 5405
taattacaaa aaaatcggcc aggcgcggtg gctcacgcct gtaatcccag cactttggga      60
ggccgaggcg ggcggatcac gaggtcagga gatcgagacc atcccggcta aaacggtgaa     120
accccgtctc tactaaaaat acaaaaaatt agccgggcgt agtggcgggc gcctgtagtc     180
ccagccactt gggaggctga ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag     240
cgagccgaga tcccgccact gcactccagc ctgggcgaca gagcgagact ccatctcaaa     300
aaaaaaaaaa aaaaaaaaaa aa                                             322


<210> 5406
<211> 286
<212> DNA
<213> Homo sapiens

<400> 5406
cactttggga ggcccaggcg ggcggatccc gaggtcagga gatccagacc atcctggcta      60
acacggtgaa accccgtctc tactaaaaat accaaaaatt agcccggcgt ggtagcgggc     120
gcctgtagtc ccagctactc gggaggctga ggcaggagaa tggcgtgaac ccgggaggcg     180
gagcttgcag tgagccgaga tcgcgccact gcactccagc ctgggcgaca gagcgagact     240
ccgtctcaaa aaaaaaaaaa aaagaaaaga aaaaaaaaaa aaaaga                   286


<210> 5407
<211> 305
<212> DNA
<213> Homo sapiens

<400> 5407
gggcgcggtg gctcacgcct gtaatcccag cactttggga ggccgaggcg ggcggatcac      60
gaggtcagga gatcgagacc atcccagcta aaacggtgaa accccgtctc tactaaaaat     120
acaaaaaatt agccgggcgt agtggcgggc acctgtagtc ccagctactt gggaggctga     180
ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga tcccgccact     240
gcactccagc ctgggcgaca gagcgagact ccgtctcaaa aaaaaaaaaa aaaaaaaaaa     300
agaaa                                                               305


<210> 5408
<211> 284
<212> DNA
<213> Homo sapiens

<400> 5408
gctcacacct gtaatcccac actttgggag gccaaggtgg gcagatcacg aggtcaggag      60
atcgagacca tcctggccaa cacggtgaaa ccccatctct actaaaaata caaaaaatta     120
gccgggcgtg gtggcaggca cctgtagtcc caactacttg ggaggctgag gcaggagaac     180
agcgtgtacc caggaggcgg agcttgcagt gagccaagat tgcgccactg cactccagcc     240
tgggcgacag agggagactc cgtctcaaaa aaaaaaaaaa aaga                     284


<210> 5409
<211> 316
<212> DNA
<213> Homo sapiens

<400> 5409
aatttgttca attcggccgg gcgcggtggc tcacgcctgt aatcccagca ctttgggagg      60
ccgaggcggg cggatcacga ggtcaggaga tcgagaccat cccggctaaa acggtgaaac     120
```

```
cccgtctcta ctaaaaatac aaaaaattag ccgggcgtag tggcgggcgc ctgtagtccc      180
agctacttgg gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg      240
agccgagatc cgccactgc actccagcct gggcgacaga gcgagactcc gtctcaaaaa      300
aaaaaaaaaa aatttg                                                      316


<210> 5410
<211> 283
<212> DNA
<213> Homo sapiens


<400> 5410
cgcctgtaat cccagcactt tggaaggccg aggcggccgg atcacgaggt caggagatca      60
agaccatcct ggctaacacg gtgaaacccc gtctctacta aaaatacaaa aaattagcca     120
ggcgtggtgg cggggccctg tagtcccagc tactcgggag actgaggcag gagaatggcg     180
tgaacccggg aggtggagcc tgcagtgagc cgagatcgcg ccactgcact ccagcctggg     240
cgacagagcc agactccatc tcaaaaaaaa aaaaaaaaaa aaa                        283


<210> 5411
<211> 93
<212> DNA
<213> Homo sapiens


<400> 5411
aggcggagtt tgcagtgacc ggagatcgcg ccactgcact ccagcctggg tgacagagca      60
agactctgtc tcaaaaaaaa aaaaaaaaaa aaa                                    93


<210> 5412
<211> 293
<212> DNA
<213> Homo sapiens


<400> 5412
gtggctcacg cctgtaatcc cagcacttcg ggaggccgag gtgggtggat cacgaggtca      60
ggagatcgag accatcctgg ctaacacggt gaaaccccgt ctctactaaa aatacaaaaa     120
attagctggg tgtggtggcg ggcgcctgta gtcacagcta cttgggagac tgaggcagga     180
gaatggcatg aacccgggag gtgcagcttg cagtgagcag agatctcgcc actgcactcc     240
agcctgggcg acagagcgag acttcatctc aaaaaaaaaa agaaagaaag taa             293


<210> 5413
<211> 295
<212> DNA
<213> Homo sapiens


<400> 5413
gtggctcatg cctgtaatcc cagcactttg ggaggctgag gcgggcggat cacaaggtca      60
ggagattgag accatcctgg ctaatatggt gaaaccccgt ctctactaaa aatacaaaaa     120
aattagccgg gcgtggtggc acacgcctgt aatcccagct acttaggagg ctgaggcagg     180
agaatggtgt gaacccggga ggcggagctt gcagtgagcc gagttcgggc cactgcactc     240
cggcctgggc aacagagcga gactccgtct caaaaaaaaa aaaaaaaaa aaaaa            295


<210> 5414
<211> 170
<212> DNA
<213> Homo sapiens


<400> 5414
```

2505

```
tcgggcgcct gtagtcccag ctacttggga ggctgaggca ggagaatggc gtgaacccgg      60
gaggcggagc ttgcagtgag ccgagatccc gccactgcac tccagcctgg cgacagagc       120
gagactccgt ctcacaaaat aaaaaaaaaa taaaataaaa taaaataaaa                 170


<210> 5415
<211> 109
<212> DNA
<213> Homo sapiens

<400> 5415
ggcgtgaacc caggaggcgg agcttgcagt gagatgagat cgcgccactg cactccagcc      60
tgggcgacag agcaagactc catctcaaaa aaaaaaaaaa aaaaaggac                  109


<210> 5416
<211> 263
<212> DNA
<213> Homo sapiens

<400> 5416
cccagcactt tgggaggctg aggcaggcgg atcacgaggt gaggagatcg agaccatcct      60
ggctaacaca gtgaaacccc atctctacta aaaatacaaa aaattatcca ggcgtggtgg      120
cgggcacctg tggtcccagc tacttgggag gctgaggcag gagaatggcg tgaacctggg      180
aggcggagct tgcagtgagc cgagatggcg ccactgcacc ccagcctggg tgacagagcg      240
agacacggtc tcaaaaaaaa aaa                                             263


<210> 5417
<211> 300
<212> DNA
<213> Homo sapiens

<400> 5417
agcgcggtgg ctcacgcttg taatcccagc actttgggag gccaaggcgg gaggatcatg      60
aggtcaggag atccggacca tcctggctaa catggtgaaa ccccgtctct actaaaaata      120
caaaaaaatt agccaggcgt ggtggctggc gcctgtagtc ccagctactc gggaggctga      180
ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga tcgcgccact      240
gcactccagc ctgggcgaca gagcaagact ccgtctcaaa aaaaaaaaa aagtgcaaac      300


<210> 5418
<211> 226
<212> DNA
<213> Homo sapiens

<400> 5418
gagaccatcc tggctaacac agtgaaaccc tgtctctact aaaaatacaa aaaattagcc      60
gggcgtggtg gcgggcgcct gtagtcccag ctactcagga ggctgagaca ggagaatggc      120
gtgaacccgg gaggcggagc ttgcagtgag ccgagatcgc gccactgcac tccagcctgg      180
gccacagagt gaaactcagt ctcaaaaaaa caaacaaaca aacaaa                    226


<210> 5419
<211> 306
<212> DNA
<213> Homo sapiens

<400> 5419
tttaggccgg gcgcgggggc tcacgcctgt aatcccagca ctttgggagg ccgaggcggg      60
cggatcacga ggtcaggaga tcgagaccat cccggctaaa acggtgaaac cgtctctac       120
```

```
taaaaataca aaaaattagc cgggcgtagt ggcgggcgcc tgtagtccca gctacttggg    180
aggctgaggc aggagaatgg cgtgaacccg ggaggcggag cttgcagtga gcggagatcc    240
cgccactgca ctccagcctg ggcggcagag cgagactccg tctcaaaaaa aaaaaataat    300
aataat                                                               306


<210> 5420
<211> 294
<212> DNA
<213> Homo sapiens

<400> 5420
gcgcggtggc tcacgcctgt aatcccagca ctttgggagg ctgaggcggg cggatcacga     60
ggtcaggaga tcgagaccat cctggctaac acggtgaaac cccatctcta ctaaaaatac    120
aaaaaattag ccgggcgagg tggcgggtgc ctgtagtccc agctactcgg gaggctgagg    180
caggagaatg gcgtgaaccc gggaagcgga gcttgcagtg agccgagatt gcgccattgc    240
actccagcct gggtgacagc gagactccgt ctcaaaaaaa aaaaaaaag aagt           294


<210> 5421
<211> 184
<212> DNA
<213> Homo sapiens

<400> 5421
cgtggtggcg ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg     60
aacctgggag gcggagcttg cagtgagccg agatcgcgcc actgcactcc agcctgggcg    120
acagagcgag agtccgtctc aaaaaaaaaa aaaaaaaga aagaaaaaa gaacaaacaa     180
cagc                                                                 184


<210> 5422
<211> 305
<212> DNA
<213> Homo sapiens

<400> 5422
tggctaggca cggtggctca cgcctggagt cccagcactt tgggaggccg aggcgggcag     60
atcacgaggt caggagatcg agaccatcct ggctaacacg gtgaaaccct gtctctacta    120
aaaatacaaa aaattagcca ggcgtggtgt cgggcgcctg taatcccagc tactcgggag    180
gctgaggcag gagaatggca tgaacccggg aggcggagct tgcagtgagc ggagatggca    240
ccactgcact ccagcctggg caacagagcg agactccgtc caaaaaaaa aaaaaaaaa    300
aaaca                                                                305


<210> 5423
<211> 258
<212> DNA
<213> Homo sapiens

<400> 5423
ccgaggcggg cggatcacga ggtcaggaga tcgagaccat cctggctaac acggtgaaac     60
cccgtctcta ctaaaaaaaa caaaaaatta gccaggcgtg tggcggcacc ctgcagtccc    120
agctacttgg gaggctgagg caagagaatg gcgtgaaccc ggaaggcgga gcttgcagtg    180
agccgagatc gcgccactgc actccagcct gggcgacaga gcgagctccg tctcaaaaaa    240
aaaaagaata aaaatgga                                                  258


<210> 5424
<211> 299
<212> DNA
```

<213> Homo sapiens

<220>
<221> SITE
<222> (18)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (27)
<223> n equals a,t,g, or c

<400> 5424
taatcccagc actttggnag gccgagncgg gcggatcacg aggtcaggag atcgagacca   60
tcccggctaa aacggtgaaa ccccgtctct actaaaaata caaaaaatta gccgggcgta   120
gtggcgggcg cctgtagtcc cagctacttg ggaggctgag gcaggagaat ggcgtgaacc   180
cggaaggcgg agcttgcagt gagccgagat cccgccactg cactccagct tgggcgacag   240
agcgagactc cgtctcaaaa aaaaaaaaaa aaacaaaaca aacaaacaaa aaaaaacaa   299

<210> 5425
<211> 147
<212> DNA
<213> Homo sapiens

<400> 5425
ggtcccagct actcgggagg cttaggcagg agaatggcgt gaacccagga ggtggagctt   60
gcagtgagcc gagatcgcgc cactgcactc cagcctgggc gacagagcga gactccatct   120
caaaaaaaaa aaaaaaaaaa aattgtg   147

<210> 5426
<211> 312
<212> DNA
<213> Homo sapiens

<400> 5426
acaccaggcc gggcacggtg gctcatgcct gtaatcccag cactttggga ggccgagacg   60
ggcggatcac gaggtcagga gatcaagacc aacctggcta acacggtgaa accccgtctc   120
tactaaaaat acaaaaaatt agccgggcgt ggtggcggtt tgccttttgt cccagctact   180
cgggaggctg aggcaagaca atggcgtgac cctgggaggc ggagcttgca gtgagctgag   240
atcgcgccac tgcactccac cctgggtgac agagcgagac tccgtctcaa aaaaaaaaaa   300
aaaaaaaaaa aa   312

<210> 5427
<211> 169
<212> DNA
<213> Homo sapiens

<400> 5427
aaaattagcc aggcgtgatg gtgggtgcct gtagtcccag ctacttggga ggctgaggca   60
ggagaatggc gtgaacccag gaggtggagc ttgcagtgag ctgagatcgc gccactgcac   120
tccagcctgg gcgacagagt gagactccat ctcaaaaaaa aaaaaaaga   169

<210> 5428
<211> 278
<212> DNA
<213> Homo sapiens

2508

<400> 5428
```
cccacacttt gggaggccga ggcaggcaga tcacgaggtc aggagatcga gaccatcttg      60
gctaacatgg tgaaacccccg tctctactaa acaaaataca aaaaattagc cgggcgtgat    120
ggcgggcgcc tgtggtccca gctactcggg aggctgaggc aggagaatgg catgaacccg     180
ggaggcagag cttgcagtga gccgagatcg cgccactgca ctccagcctg ggtgacagag     240
tgagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaa                             278
```


<210> 5429
<211> 316
<212> DNA
<213> Homo sapiens

<400> 5429
```
tcagccggcg cggtggctca cgcctgtaat cccagcactt tgggaggccg aggcgggcgg      60
atcacgaggt caggagatcg agaccatccc ggctaaaacg gtgaaacccc gtctctacta    120
aaaatacaaa aaattagccg ggcgtagtgg cgggcgcctg tggtcccagc tacttgggag     180
gctgaggcag gagaatggcg tgaacccggg aggcggagct tgcagtgagc cgagatcccg     240
ccactgcact ccagcctggg cgacagagcg agactccgtc tcaaaaaaaa ataaaataaa     300
ataaaaaaaa agaata                                                    316
```


<210> 5430
<211> 293
<212> DNA
<213> Homo sapiens

<400> 5430
```
tggctcacgc ctgtaatccc agcactttgg gaggccaagg cgggcagatc atgaggtcag      60
gaaatcgaga ccatcctggt taacaaggta aaaccccgtc tctactaaaa atacaaaaaa    120
ttagccaggt gtggtggcgg cgcctgtaa tctcagctac ttgggaggct gaggcaggag     180
aacggcgtga acctgggagg cggagcttgc agtgagccga gattgcgcca ctgcactcca    240
gcctggggga cagaccgaga ctctgtctca aaaaaaaaa aaaaaaaaaa aaa            293
```


<210> 5431
<211> 207
<212> DNA
<213> Homo sapiens

<400> 5431
```
attaaaaccc catctctact aaaaatacaa aaaattagct gggcgtgggt ggcaggcgcc      60
tgtagtccca gctactctgg aggctgaggc aggagaatgg catgaacctg ggaggcggag    120
cttgcagtga gccgagattg cgccactgca ctccagcctg ggtgacagag cgagactctg     180
tctcaaaaaa aaaaaaaaaa agaaata                                        207
```


<210> 5432
<211> 131
<212> DNA
<213> Homo sapiens

<400> 5432
```
ggaggctgag gcaggagaat ggcgtgaacc caggaggcgg agcttgcagt gagctgagat      60
tgcgccactg cactccagcc tgggcaacag agcgagactc cgtctgaaaa aaaaaaaaac    120
aaaaactggt g                                                        131
```


<210> 5433
<211> 188
<212> DNA
```

<213> Homo sapiens

<400> 5433
ttaaaaatac aaaaaattag ctgggcgtgg tggcgggtgc tgtagtccca gctactcagg    60
aggctgaggc aggagaatgg cgtgaaccca ggaggcggag attgcagtga gccgagatcg   120
caccactgca ctccagcctg ggcaacagag cgagactccg tctcaaaaaa agaaaaaaaa   180
aagaaagt                                                            188


<210> 5434
<211> 241
<212> DNA
<213> Homo sapiens

<400> 5434
ggcggatcac gaggtcagga gattgagatc atcctggcta acacggtgaa accccgtctc    60
tactaaaaaa tacaaaaaat tagccgggcg tggtggtggg cgcctgtagt cccagctact   120
tgggaggctg aggcaggaga atggtgtgaa cccgggaggc agagcttgca gtgagctgag   180
atcatgccac tgcactgtag ccagggtgac agagtgagac tccatctcaa aaaaaaaaaa   240
a                                                                   241


<210> 5435
<211> 160
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (30)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (82)
<223> n equals a,t,g, or c

<400> 5435
ggtgggcgcc tgtagtccca gctactcggn aggctgaggc aggagaatgg cgtgaaccca    60
ggaggcggag cttgcagtga gntgagatcg cgccccctgc actccagcct gggtgacaga   120
gcgagactct gtctcaaaaa aaaaaaaaaa aaaaaaaagt                         160


<210> 5436
<211> 227
<212> DNA
<213> Homo sapiens

<400> 5436
taagaccatc ctggctaaca cggtgaaacc ccgtctctac taaaaataca aaaattagcc    60
aggcgtggtg gcgggcgcct gtagtcccag ctacttggga ggctgaggca ggagaatggc   120
atgaacccgg gaggtggagc ttgcagtgag ctgagatcgc gccactgcac tccagcctgg   180
gcaacagagc gagactctgt ctcaaaaaaa aaaaaaaaaa tcaagta                 227


<210> 5437
<211> 68
<212> DNA
<213> Homo sapiens

<220>

2510

```
<221> SITE
<222> (28)
<223> n equals a,t,g, or c

<400> 5437
cgcgccactg cactccagcc tgggcganca gagcaagact ccatctcaaa aagaaaaaaa        60
aaaaaaaa                                                                  68


<210> 5438
<211> 235
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (230)
<223> n equals a,t,g, or c

<400> 5438
agatggagcc catcctggct aacacggtga aaccccgtct ttactaaaaa tacaaaaaat        60
tagccgggcg tggtggcgga cgcctgtagt cccagctact cgggaggctg aggcaggaga       120
atggcgtgaa cccgggaggc ggagcttgca gtgagccgag atcgcgccac tgcactccag       180
cctgggcgac agagcgagac tccgtctcaa aaaaaaaaaa aaaaaaaaan aataa            235


<210> 5439
<211> 268
<212> DNA
<213> Homo sapiens

<400> 5439
ttgcgggggc ccaggcaggc ggatcacgag gtcaggagat tgagaccatc ctggctaaca        60
cggtgaaacc ccgtctctac taaaaataca aaaagattag ctgggcgtgg tggcgggcgc       120
ctgtagtccc agctacttgg gagactgagg cagaagaacg gcgtgaatct gggaggcgga       180
gcttgcagtg agccgagatc acaccacagc actccagctt gggcgacaga gcgagactcc       240
gtctcaaaaa aaaaaaaaaa aaaaaaga                                          268


<210> 5440
<211> 127
<212> DNA
<213> Homo sapiens

<400> 5440
tgaggcagga gaatcgcttg aacccgggag gcagaggttg cagtgagcca agatcacgcc        60
actgcactcc agcctgggcg acagaatgag actccatctc aaaaaaaaaa aaaaaaaaaa       120
aaaaaag                                                                 127


<210> 5441
<211> 187
<212> DNA
<213> Homo sapiens

<400> 5441
cccatctcta ctaaaaatac aaaaaattag ccaggcgtgg tggcgggcgc ctgtagtccc        60
agctacttgg gaggctgagg caggagaatg gtgtgaaccc gggaggcgga gcttgcagtg       120
agccgagatc gcgccactgc gctccagcct gggcgacaga gcgaaactcc gtctaaaaaa       180
aaaaaaa                                                                 187
```

<210> 5442
<211> 298
<212> DNA
<213> Homo sapiens

<400> 5442
gcggggctca cgcctgtaat cccagcactt tgggaggctg aggcgggcag atcacaaggt   60
caggagatcg agaccatcct ggctaacatg gtgaaacccc atctctacta aaaatacaaa   120
aaattagccg ggcgtggtgg cgggcccctg tagtcccagc tatttgggag gctgaggcag   180
gagaatggag tgaatccggg aggcagagct tgcagtgagc tgagatcgtg ccactgcatt   240
ccagcctagg cgacagagcc agactctgtc tcaaaaaaaa aaaaaaaaa aaaaaatt   298

<210> 5443
<211> 44
<212> DNA
<213> Homo sapiens

<400> 5443
gcaaaactcc gtctcaaaaa aaaaaaaaaa aaaaaaaaaa aaga   44

<210> 5444
<211> 220
<212> DNA
<213> Homo sapiens

<400> 5444
taacacagtg aaaccccgtc tctactaaaa atacaaaaat tagccgggcc tggtggtggg   60
cgcctgtagt cccagctgct ggggaggctg aggcaggaga atggcgtgaa cccgggaggc   120
ggagcttgca gtgagccgag atggcgccac tgcactccag cctgggcgac agagcgagac   180
tccttctcaa aaaaaaaaaa aaaaaaaaaa aagagagaaa   220

<210> 5445
<211> 306
<212> DNA
<213> Homo sapiens

<400> 5445
ccttccggct gggcacagtg gcttacgcct gtaatcccag cactttggga ggccgaggca   60
ggcggatcac gaggtcagga gatcgagacc atcctggcta acacggtgaa accccgtctc   120
tactaaaaat acaaaaaatt agctgggcgt ggtggcaggc gcctgtagtc ccagctactc   180
aggaggctga ggcaggagaa tggcatgaat ccgggaggca gagcttgccg tgagctgaga   240
tcgtgccact gcactccagc ctgggcgaga gagcaagact ccgtctcaaa aaaaaaaaa   300
aaagaa   306

<210> 5446
<211> 143
<212> DNA
<213> Homo sapiens

<400> 5446
gtagtcccag ctactgggga ggctgaggca ggagaatggc gtgaacctgg gaggcggagc   60
ttgcagtgag ccgagatcgc gccactgcac tccagcctgg gcgacagagc gagactccgt   120
ctcaaaaaaa aaaaaagaa atg   143

<210> 5447

2512

<211> 170
<212> DNA
<213> Homo sapiens

<400> 5447
gccgggcgtg gtagcgggcg cctgtagtcc cagctactcg ggaggctgag gcaggagaat   60
ggcgtgaacc cgggaggcgg agcttgcagt gagccgagat ctcgccactg cactccagcc   120
tgggcgacag agcgagactc cgtctcaaaa aaaaaaaaaa aaaaagactg   170

<210> 5448
<211> 271
<212> DNA
<213> Homo sapiens

<400> 5448
cactttggga ggctgaggcg ggcggatcac gaggtcagga aatcgagtcc atcctggcta   60
acatggtgaa accccgtctc tactaaaaat acaaaaaatt agccgggcgt gctggtgggc   120
gtctgtagtc ccagctactc aggaggctga ggcaggagaa tggcgtgaac ccgggaggcg   180
gaggttgcag tgagctgaga tcgcgccaca gcaactccag cctgggcgac agagcgagac   240
tctgtctcaa aaaaaaaaaa aaaaaagaaa a   271

<210> 5449
<211> 98
<212> DNA
<213> Homo sapiens

<400> 5449
cggagcttgc agtgagccga gatcgcgcca ctgcactcca gcctgggcga cagagcgaga   60
ctccgtctca aaaaaaaaaa aaagaaaacc aagttaga   98

<210> 5450
<211> 296
<212> DNA
<213> Homo sapiens

<400> 5450
gcctgtaatc ccagcacttt gggaggctga ggcgggcgga tcacgaggtc aggagatcga   60
gatcattctg ctaacatgg tgaaaccccg tctctactaa aaatacaaaa aaaattagcc   120
gggcgtggta gcgggcgcct gtagtcccag ctactcggga ggctgaggca ggagaatggc   180
gtgaacccgg gaggcgcagc ttgcagtgag ccaagacagc gccactgcag cccagcctgg   240
gcgaaagagc aagactctgt ctcaaaaaaa aaaaaaaaaa aaaaaagga aggaaa   296

<210> 5451
<211> 135
<212> DNA
<213> Homo sapiens

<400> 5451
agactgagca ggagaatggc gtgaacccgg gaggcggagc ttgcagtgag cagagattgt   60
gccactgcac tccagcctgg gtgacagagg gagattctgt ctcaaaaaaa aaaaaaaaaa   120
aaaaaaaaa gaatc   135

<210> 5452
<211> 171
<212> DNA
<213> Homo sapiens

2513

<400> 5452
aaaaaattag ccgggtgtgg tggcgggcgc ctgtagtccc agctgctggg gaggctgagg   60
caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agccgagatc cgccactgc   120
actccagcct gggtgacaga gcgagactcc atctcaaaaa aaaaaaaaaa a   171

<210> 5453
<211> 184
<212> DNA
<213> Homo sapiens

<400> 5453
aaatacaaaa aattagccag gcgtggtggc gggtgcctgt agtcccagct actcgggagg   60
ctgaggcagg agaatggcat gaacctggga ggcggagctt gcagtgagct gagatcgtgc   120
cactgcactc cagcctgggc aacagagcaa gaccccgtct caaaaaaaaa aaaaaaaaaa   180
ggaa   184

<210> 5454
<211> 125
<212> DNA
<213> Homo sapiens

<400> 5454
ctgaggcagg agaatggcgt gaacccggga ggcggagctt gcagtgagcc gagatggcgc   60
cactgcagtc cagcctgggc gatagagcga gactctgtct caaaaaaaaa aaaaaaaaaa   120
aaatt   125

<210> 5455
<211> 196
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (106)
<223> n equals a,t,g, or c

<400> 5455
tctactaaaa atacaaaaaa ttagccgggc gtagtggcgg gcgcctgtag tcccagctac   60
ttgggaggct gaggcaggag aatggcgtga acccgggagg cggacntgca gtgagccgag   120
atcccgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa aaaaaaaaaa   180
aaaaaaaaaa gaaata   196

<210> 5456
<211> 183
<212> DNA
<213> Homo sapiens

<400> 5456
aatacaaaaa attagccggg tgtggtggcg ggcgcctgta gtcccagcta ctcgggaggc   60
tgaggcagga gaatggcgtg aacccgggag gtggagcttg cagtgagctg agatcgtgcc   120
actgcactcc agcctgggcg acagagcgag actccgtctc aaaaaaaacc cacaaacaac   180
aaa   183

<210> 5457
<211> 105

<212> DNA
<213> Homo sapiens

<400> 5457
ctggaacctg ggaggcagag tttgcagtga gccgagatca ggccactgca ctccagcctg   60
ggcaacagag caagactctg tctcaaaaaa aaaaaaaaaa aaaag   105

<210> 5458
<211> 319
<212> DNA
<213> Homo sapiens

<400> 5458
aagaatagaa atcaggccgg gcgcggtggc tcacgcctgt aatcccagca ctttgggagg   60
ccgaggccgg cggatcacaa ggtcaggaga tcgagaccat cctggctaac atggtgaaac   120
cccgtctgta ctaaacatac aaaaagttag ccgggcatgg tggcgggcac ctgccgtccc   180
agctacttgg gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg   240
agccgagatg gcgccactgc actccagcct gggcgacaga gcgagactcc gtctcaaaaa   300
gaaaaagaat agaaatcta   319

<210> 5459
<211> 307
<212> DNA
<213> Homo sapiens

<400> 5459
gggccgggcg cggtggctca cgcctgtaat cccagcactt tgtgaggctg aagcgggctg   60
atcacgaggt caggagattg agaccatcct ggctaaaacg gggaaacccg tctctacta   120
aaaatacaaa aaaattagcc gggcatggcg gcgggcacct gtagtcccag ctacttggga   180
ggctgagaca ggagaatggc atgaacccgg gaggcggagc ttgcagtgag cctaaatcgc   240
gccgctgtac tccagcttgg gcgacagagc gagactccgt ctcaaaaaaa aaaaaaaaaa   300
aaaaaaa   307

<210> 5460
<211> 311
<212> DNA
<213> Homo sapiens

<400> 5460
acattggtta ggccgggcgc ggtgcctcac acctgtaatc ccagcacttt gggaggccga   60
ggcgggcgga tcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaaccccg   120
tctctactaa aaatacaaaa aattagctgg gcatggtgac gggcgcttgt agccccagct   180
actcgggagg ctgaggcagg agaatggcgt gaacctggga ggcagagctt gcagtgagca   240
gagatcacgc cactgcactc cagcctgggc gacagagcga gactccatct caaaaaaaaa   300
gaagaaatac a   311

<210> 5461
<211> 300
<212> DNA
<213> Homo sapiens

<400> 5461
gcgcggtggc tcacgcctgt aatcccagca ctttgggagg ccgaggcggg tggatcacga   60
ggtcaggaga tcgagaccat cctggctaac acggtgaaac cccgtctcca ctaaaaatac   120
aaaaaattct ccgggcatgg tggcgggcgc ctgtagtccc agctactcca gaggctgagg   180
caggagaatg gcatgagccc aggaggcgga gcatgcagcg agccgagatg gaaccactgc   240
actccagcct gggtgacaga gcgagactcc gtctcaaaaa aaaaaaaaaa aaaaccacac   300

2515

```
<210> 5462
<211> 175
<212> DNA
<213> Homo sapiens

<400> 5462
cgggcgtagt ggcgggcgcc tgtagtccca gctacttggg aggctgaggc aggagaatgg        60
cgtgaacccg ggaggcggag cttgcagtga gccgagattg cgccactgca ctccagcctg       120
ggcgacagag cgagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaaa atcac             175


<210> 5463
<211> 196
<212> DNA
<213> Homo sapiens

<400> 5463
tctactgaaa atacagaaaa attagccggg cgtggtagcg ggcgcctgta gtcccagcta        60
ctcgggaggc tgaggcagga gaatggcgtg aacccgggag gcggagcttg cagtgagccg       120
agatcgcgcc actgcactcc agactgggcg acagagcgag actccgtctc aaaaaaaaaa       180
aaaaaaaaaa aatgac                                                       196


<210> 5464
<211> 277
<212> DNA
<213> Homo sapiens

<400> 5464
tgtaatccca gcactttggg aggccgaggc gggcggatca cgaggtcagg agatccagac        60
cagcctggct aacatggtga aaccccgtct ctactaaaaa tacaaataat tagcctggcg       120
tggtggtggg cacctgtagt cccagctact ggggaggtga ggcaggagaa tggcgtgaac       180
ccgggaggcg gagcttgcag tgagccgaga tcgcaccact gcactccagt ctgggcgaca       240
gagcgagaca ccgtcaaaaa aaaaaaaaaa aaaaaga                                277


<210> 5465
<211> 159
<212> DNA
<213> Homo sapiens

<400> 5465
ctgtggtccc agctactcgg gaggctgagg gaggagaatg gcgtgaaccc aggaggcaga        60
gcttgcagtg agccgagatc gcgccactgc actccagcct gggtgacaga gcgagactcc       120
gtctcaaaaa aaaaaaaaaa gaaaagaaaa agaaaaata                              159


<210> 5466
<211> 296
<212> DNA
<213> Homo sapiens

<400> 5466
gggtgcggtg gctcatgcct gtaatcccag cactttggga ggccaaggca ggcggatcac        60
gaggtcagga gatcaagacc atcctggcta acacggtgaa accccgtctc tactaaaaat       120
acaaaaaatt agctgggtgt ggtggtgggt gcctgtagtc ccagctactc gggaggctga       180
ggcaggagaa tggcatgaac ccgggaggca gagcttacag tgagcctaga ttgcgccact       240
gcactccagc ctgggcaaca gagcgagact ccatctcaaa aaaaaaaaaa aaaagg          296
```

<210> 5467
<211> 219
<212> DNA
<213> Homo sapiens

<400> 5467
```
catcctggct aacacagtga aaccccgtct ctactaaaaa tacaaaaaat tagctgggcg        60
tgctggtggg tgcctgtagt cccagctact cgggaggctg aggcaggaga atggcgtgaa       120
cccaggaggc ggagcttgca gagagccgag atctcgccac tgcactccag cctgggcgac       180
agagcgagac tccgtctcaa aaaaaaaaga aaaagaaa                               219
```

<210> 5468
<211> 301
<212> DNA
<213> Homo sapiens

<400> 5468
```
gccgggcgcg gtggctcaag cctgtaatcc cagcactttg ggaggccgag acgggcggat        60
cacgaggtca ggagatcgag accatcctgg ctaacacggt gaaaccccgt ctctactaaa       120
aatacaaaaa ttagccgggc atggtggcgc gcgcctgtag tcccagctac acgggaggct       180
gaggcaggag aatggcgtga acccgggagg cggagcttgc agtgagtcga gatcgcgcca       240
ctgcactcca gcctgggtga cagagtgaaa ctccgtctca aaaaaaaaaa aaaaagagaa       300
t                                                                      301
```

<210> 5469
<211> 154
<212> DNA
<213> Homo sapiens

<400> 5469
```
tggtagtccc agctactcgg taggctgagg caggagaatg gcttgaaccc ggtaggcgga        60
gcttgcagtg agccgagatc acgccactgc actccagcct gggccacaga gcgagactcc       120
gtctcaaaaa aaaaaaaaaa aaagaaagaa attg                                   154
```

<210> 5470
<211> 2548
<212> DNA
<213> Homo sapiens

<400> 5470
```
agcttgcaaa tggccgggcg cggtggctca cccctgtaat cccagcactt tgggaggcca        60
aggcgggcgg atcacgaggt caggagatcg agaccatcct ggctaacacg gtgaaacccc       120
gtctctacta aaaatacaaa aaattagctg gccatagtgg cgggtgcctg tagtcccagc       180
tactcgggag gctgaggcag gagaatggcg tgaacccggg aggcggagct tgcagtgagc       240
cgagactgtg cccctgcact ccagcctggg cgacagagag agactccgtc tcaaaaaaaa       300
aaaaagcttg caaacgcaga aaagaatgaa aaacaatgaa gatggtaaat atgtttataa       360
acctgaattg atgctggctg cataaagcaa taataataac atgaggttgg aaatgaaatt       420
aaaacgtata acaacaatga cgtaaaagcc aagacagtaa atggagtaaa agtgttccaa       480
ggttcttgca ctatcctgga agaagataaa ttcctattag acttaaataa gtcaagggtg       540
gatatagtaa tccctgtagt attactaaaa gaatagtgaa agggtgcata atttccaagc       600
cggtagagaa aaaatgtaga aaagttaaaa atatattatc aattcaaaag aaggcaagaa       660
aggagagaaa agggaatata gagcacataa agagtgctct ttcagcatac aaacatgctc       720
tggtatctct cactcttaaa attcttcctt ggcctattat ttcttttcat actccacctc       780
atttctctgc tttccttcat agcgaaactt ctagaaacag ttgcccccaa aatgctattt       840
ctgctccctc aatctgttca ctcccaccct attccaatat aactttcctc tctaccattc       900
cacaaagtct tctcacgtca aagccactga tgatgactga ggatgactga ggagacaaat       960
acaaagcatt tagggctggg cgcggtggct tacgcctgta atccagcact ttggaaggcc      1020
```

2517

```
gaggcaggtg gatcatgagg tcaggagctc aagaccagcc tagccaacat ggtgaaactc   1080
cgtctctact aaaaatacaa aaattagccg ggcatggtgg catgcgcctg taatcccagc   1140
taccttggga ggctgaggcc agagaatagc ttgaacctgg gaggcagagg ttgcagtgag   1200
ccaagttcat gccactgcac tccagcctgg gcaacagagc aagactccgt ctcaaaaaaa   1260
aaaaagaaa gaacttaata aaattataga ttcagactga aatataccaa tagttacagt    1320
gaatataaat ggaaaagaaa ttctccagtt aaaatacaag aattagtaga caggtttaaa   1380
aaacaaacaa catgctattt accagagaca gaggtaaggc ataaggatac agtaaggcat   1440
aaggatacag gtaaggcata aggatatgga aaaaggata cagtaaaagg actgagaaat     1500
ataaaattgg aagactctaa aagaaagctg atatagctgt attttatata tatatgtgtg    1560
tatatatacg tgtatatata tgtatatata tagtgtgtgt atatatatat ataaaataaa    1620
aggttggttt cctccttcct tttaaagtat ataattcaat tttttttcag tatgttcaaa   1680
atattatgca gccatcacca ctatataatt cctagataaa atttacttta aggcaaaat    1740
tctttttttt tttttttttt tgagacccag tctcactctg ttgcctaggc tggagtgcag   1800
tgtcatgatc tcagctcact gcaacctctg cctcccaggt tcaagcaatt ccctgcctc    1860
aacctcccga gtacctggga ttacaggcgt gtaccaccat gcctggcta attttgtag     1920
ttttagtaga gatggggttt ccccatgttg gccaggctag tctcaaactc ctgacctcag   1980
gcaatccgcc cacctctgcc tcccaaaggg ctggcattac agctgagagc cactgcgccc   2040
ggccaaaaag tcttaaaccc agaagataca acaatcctaa attgctaaat ctctaataac   2100
atagtctcaa agcacaagac gtaagaactg atagaactac aaagacaaat agaaaaagct   2160
acaagcctag tgggaaattt tcaacaagca aagagtatag aagatttgat ttcaaaattc   2220
attaaggtag ggccgggcat ggtggctgat gcctgtaatc tcagcacttt gggaggctga   2280
gacgggcaga tcatgaggtc aggaattcca gaccatcctg ctaacacag tgaaatgccg     2340
tctctactaa aaatacaaaa aattagctgg gcgtggtggc aggtgcctgt agtcccagct   2400
actcgggagg ctgaggcagg agaatggcat gaacccggga ggcggagctt gcagtcagcc   2460
gagattgcgc cactgcactc cagcctggga aacagagtga gactccatct caaaaaaaaa   2520
aaaaaaaaa aaaaaaaaa aaaaattc                                         2548


<210> 5471
<211> 6141
<212> DNA
<213> Homo sapiens

<400> 5471
agtggctggg cgcagtggct cacgcctgta atcccagcac tttgggaggc cgaggcgggc    60
ggatcatgag gtcaggagat cgagaccatc ctggctaaca cggtgaaacc ccgtctctac   120
taaaaataca aaaaattag ctgggcgtgg tcgtgggcac ctgtagtccc agctactcgg    180
gaggctgagg caggagaatg gcgtgaacct gggaggtgag cttgcagtga ccgagatca     240
cgccactgca ctccagcctg ggcgacagag cgagactctg tctcaaaata aaaaacacca   300
gatgttaaat aaaatataat tcacaaattt tttaatgcat agatgaatgt acaaactaaa   360
ggaattttcc aggagctgga aacaaagagc acttcagcta gtgtaagcta acctgcagct   420
tagcctgcgg cagaaagaaa ctggcggtct tagtaattga ggcatttcaa tttcagcttg   480
cagagttgga ggcaatattc ctacataaaa gtagacccac aaagggctag ataagaaaag   540
ggataagata ctgaagcatc tctgtcatgg atggggctgt aggggtatac gggagtagga   600
gaggagaaat cttctcatga ccacaatccc aagtgggtaa taaggtttga gtttacacta   660
cctgaatatt gctgagaaat taatataaaa aaacgagcac aagcctatgg aaacctctgg   720
agcacttcac agaagcgaat acaaaaccgc ctcagggaca cgccaatcca ttctaaaatg   780
aattctcaga aaaataagcc ctgctaaagt tgacttcaca atccaaaact gcccccactc   840
aacataacac acataataag atcagataaa gaccacaaaa taattacttt aaagaagaa    900
aaaaaatagg aatatctgga aagaagcaa ataaaaagtt cagacattta aaaatgtatc     960
actgaaatta aagacagtcc aagagcagat ttagacccag ttggctgggt acggtggctc   1020
acacctataa tcccagcact ttggaaggct gaggtgggtg gatcacctga ggtcaggagt   1080
ttgagaccag cctgtccaac atggtgaaat cccttctcta ctaaaaatac aaaaacttag   1140
acgggcatag tggtgggcct ctgtaatccc agctactcag gaggctgagg caggagagtc   1200
acttgaaccc aggaggcaga ggttgcagtg agctgagatc atgccactgc actccagcct   1260
aggcaacaag agcgaaactg tctcaaaaaa gaaaagaaa gaaaagatt tagacccagt     1320
taaagagaaa taggccagac atagtggttc attcctgtaa tctaagcact ttaggatgcc   1380
tgggcaggag gatcaaggca atgtagtgag accatgtgtc tacaaaaaat aaaaaaatta   1440
gctgggtgtg atgctacata gtcccagcta ttcaggaggc tgaagtggga gagtcacctg   1500
agcccaggtt gaagcagcag tgagctgtga ctgtgccact gcactccagc ctgggcgaca   1560
gagtgagacc ctgtttcaaa aaaaaaagta aagaaaaat tacctatcaa gaaatgataa    1620
```

2518

```
ttaggctgac agtagacccc aacagcaaca atagaaaata atgaaaatgg ccaggtgtcg   1680
tggctcatgc ctgtaatccc agcactctgg gaggctgagg cgaacatcta aggtcaggac   1740
tttgagaccc agaatggcca acatgatgaa acccggtttc tactaaaaat acacaaaaaa   1800
ttagccaggt atggtggtgc atgcctatag tcccagctac ccaggaggct gaggcagggg   1860
aaccccttga acctatgagg cagagatcac gccactgcac tccagtctgg gcgacagaga   1920
ctgtctccaa aaaaaaaaaa aaaaaaaaaa aactaaaaga aaatattttt ctcccaaatg   1980
ctaaaataaa gtaagtaact atctggaatt ctacatccag ctatattatt atttaagagt   2040
aagaataggg gtggggtgac aaagagattt tgtcagtaat gcactatcaa aacctgaatc   2100
cagaaaagga gtggtggggg ttaaaaaaaa gaaaaaaaaa aaaaaaacaa gcagtgatga   2160
gcaaagaaaa tggtattcag caaattgagg ccaggcgccg tggctcacgc ctgtaatccc   2220
agcactttgg gaggccaagg cgggtggatc atgaggtccg gagatcgaga ccatcctggc   2280
taacacagtg aaaccccgtc tctactaaaa atacaaaaaa atttagccgg gcatggtggc   2340
gggcgcctgt agtcccagct acttgggagg ctgaggcagg agaatggcgt gaacccggga   2400
ggcagagctt gcagcgagcc aagagtgcac cactgcactc cagcctgggt gacagagcga   2460
gactccatct caaaaaaaaa aaaaaaatgg tatttagcaa attgaaataa gccttgactg   2520
taaaatagta acacctaaac tatctttaag gatatgaaaa caaggtagaa ctaaaatata   2580
tttattagtc atgttcttgg atagaaatac tcatttgtgg ctgaacatgg tggctcatgc   2640
ctgtaatcct agcactttgg gaggctgatg caagaggatc actcaagccc aggagttcac   2700
aaccagcctg ggcaacatag caagaccctg ttgctttttg ttttgaggtg tttttttttt   2760
taatttaaaa gaaaaaaaat taaatacttt ttttaaagaa atactcattt gtcatagga   2820
tgggaattat cttttaggttg acttataaat ctaacatgat gctgataaaa atactgtaag   2880
ggttgctctt tttggggaga accccaggca tggtggtgta tacccatagt cccagctatt   2940
tgggaggctg aggtgacagc atcacctgag ctgagactgc agtgagctgt gatcaagccg   3000
ctgcacttca gccttggcaa tgaagtgaga ccctgtctca aaaataaaat aaattaaact   3060
aaattaaaat taaataaatt ttaaaaataa aataaaataa gatgcttacc cttctagttg   3120
ttgtgaagat taaatgagtt attcataaag tgcttacaac attgcctggc acataataag   3180
tactcaactg aattctagtt tcggttagtt tctcctgtta taactgtatg agtctgtttc   3240
agggctattc tgatccaatc atctgctatc tatctattca tacgtcagaa ccactcatgg   3300
caccatttta caatgttaag agaagtctat gtgcaagctc ctaaaaacca catttctttc   3360
cttctttctt atcttagaga caggagtctt gctctgttcc ccaggctgga agtaggcagt   3420
tgcctgatca tggctcactg tggccttgaa ttcctgcaca agtgatcctc ctatcttggc   3480
ctcccaaagt gctgggaata caagtctgag ccaccaggct gagcccataa aaaacatttt   3540
tctggccaga tgcagtgtct catgcttgta attccaacac tttgggaggc tgaggcgggc   3600
agatcacctg aggtcacaag ttcgagacca gcctggccaa catggtgaaa ctctgtctct   3660
aacaaaaata caaaaattag ccaggtgtgg tggtgggcac ctgtaatccc agctactcgg   3720
gaggctgagg caggagaatt gcttgaaccc aggaggcaga ggttgcagtg agccaagata   3780
gcaccattgc actcccgcct gggcaacaag agtgaaactc cgtctcagaa aaaaacaaac   3840
aaacattttt gttagttctt tcctgttgat tctgtcagat aaactttaga ataattttca   3900
gatcctccat ctcttaccta ttcagttgaa ttatattaca ttaataaact gaaaagaaat   3960
gacatctata tatctaatag gtcattccat cttagaaaat ggaatggtct cataattatt   4020
tcaggctttt aaattatctc atagtttact gcatgtctca ttacctgtta aaggcatttt   4080
aaaatacttt atgttttgt taataaagtg agtggtggta tattttccct tattacattt   4140
tctgattttt gctggcatta taaaactatt gggtttttata cacttgcttt acagctagtc   4200
aacaagctaa acttttaatt ctaaaaagtg tctcttgggt tttcttgtgt aaaataaata   4260
gctatatctc ctatatacaa tgaaaaattg tataacagtc tcaacaaggg atatcaacgg   4320
aaaatctcaa ggggatttat ttttttaaga cagagtgcag tggcactaac atagatcact   4380
gcagactcga aatctgagct taagggatac ttccactttg gcttcactag atggatgcca   4440
cacatacctg gctaattttt ttttaatgt aaaaaacatg ggtgggtct tgctatgttg   4500
ccctggctgg tctcaaactc ctggcctcaa gcgatctcct gcctcggcct cccaaagtgc   4560
tgtaatccca gcactttggg agacacctca cctggcctca aagggatttt taaattgcaa   4620
aacatgcaga aatatttaat ctgtctggga aataaccct gactcctggc ctcccagtct   4680
cccagagacc attacacaga agcaggtcca tgttttacta aaggaagagt gtcagcaata   4740
aactgttgag tgaaaagacc aagctatagg acagcatgca cagaatgagc ccactttgtt   4800
aaaaaatata tttcatatat acagcacata ctaaatatag catggatata gaaaagtatc   4860
tgggagatta ggtatcaaat tattaacggt gcttgtctgt ggggaataca agtaggagca   4920
aactttact tttattttg cttgctatct accccaaat agattactaa ttctgaagca   4980
ttgctttaag ctagtaatat cttttttcag tttcttttta aacacaccta aattcagagg   5040
acagaggtag acaatttttg cacatccatc ttgaacttaa tcattacaca gaaaaatagc   5100
tggaaaacta ttatgttttg aatatatgtt gaatacatac gattttact gcagacatga   5160
tacatagccc atagtgccca gagctgaacc tctggttgag agaagttgcc aaggagcggg   5220
aaaaatgtct tgaaagatct aaaacaaaaa aaagtacaaa gatgttaatc cagaacagtt   5280
```

2519

```
aggccagtgc tcagggatat aataatttgt actatataat taatataata atgtatataa    5340
ttttcacagc cgggcatggt ggctcatgcc tgtaatccca gcactttggg aggccaaggt    5400
aggtggattg cttgagctta ggaattcggg accagcctag gcaacaaggt gagcccccgt    5460
ctctacaaaa aaaaaaaaaa aaaaaaaaaa aaaattagct gggcctggtg gcacacgcct    5520
gtagggccaa gtgggaggat cctcaagtgg gaggatcact tgagcctggg aagtcaaggc    5580
tgcattgaga tgtgatcccg ccactgcatt ccagctccag cctgggcaac agagagagac    5640
cctgactcaa aaggttgaaa aaaaagaat tttcaaattt taaacatttt ccccacaggg    5700
tcaacttctc cctgtgaccg agcatacaat gaagctatta tttaagaaat tgcattctgt    5760
attaaaccct ttattatgat cagtatctca ttgcatcctc aatcttgcac actgtcagcc    5820
tcattttaca gacaaggaaa gctgaccttc tagaaatgac tttcccaata tcagagaaat    5880
aggatttgaa cataaggcta actgactcta acacgttatc actgtatcac tgagtacagc    5940
ctttaagaaa agctcaacac tgggccaggc acggtggctc acgcctgtaa tcccagcact    6000
ttaggaggcc gaggcgggca gatcacgagg tcaggagatc gagaccatcc tggctaacat    6060
ggtgaaaccc cgtctccact aaaaatacaa aaaattagcc gggcatggtg gcgggtgcct    6120
gtagtcccag ctactcggga g                                              6141


<210> 5472
<211> 169
<212> DNA
<213> Homo sapiens


<400> 5472
aatacaaaaa attagccagg cgtggtcgcg ggtgcctgta gtcccagcta ctcaggaggc    60
tgaggcagga gaatggcgtg aacccgggag gcggagcttg cagtgagcag agattgcgcc   120
actgcactcc agcctgggcg acagagtgag actccgtctc aaaaaagaa                169


<210> 5473
<211> 176
<212> DNA
<213> Homo sapiens


<400> 5473
cgggtgtggt ggagggcacc tgtagtccca gctactcggg aggctgaggc aggagaatgg    60
cgtgaaccca ggaggcggag cttgcagtga gctgagatcg tgccactaca ctccagcctg   120
ggcaacagag cgaaactccg tctcaaaaaa aaaaaaaaaa aaaaaaaaaa agtcca        176


<210> 5474
<211> 207
<212> DNA
<213> Homo sapiens


<400> 5474
aaccccgtct ctactaaaaa tacaaaaaaa tagccgggcg tagtggcggg cgcctgtagt    60
cccagctact gggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca   120
gtgagcccag atcccgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa   180
aaaaaaaaaa aaaaaaaaa gactgcg                                         207


<210> 5475
<211> 230
<212> DNA
<213> Homo sapiens


<400> 5475
ccatcttggt taacacggtg aaacccggtc tctactaaaa atccaaaaaa ttagccgggc    60
gtggtagcgg gcgcctgtag tcccagctac tcgggaggtt gaggcaggag aatggcgtga   120
acccgggagg cggagcttgc agtgagccga gatcgcgcca ctgcactcca gcttgggcga   180
cagagcgaga ctccgtctca aaaaaaaaaa aaaaaaaaaa aaaagaataa                230
```

<210> 5476
<211> 288
<212> DNA
<213> Homo sapiens

<400> 5476
tcacgcctgt aatcccagca ctttgggagg ccgaggcagg tggatcacaa ggttaggaga   60
tagagaccat cctggctaac acggtgaaac cccgtctcta ccaaaaatac aaaaaattag   120
ccgggcgtgg tggcgggcgc ctgtagtccc agctactccg gaggctgagg caggagaatg   180
gcgtgaaccc aggaggtgga gcttgcagtg agccgagatc gcgccactgc acgccagcct   240
gggtgatgac agagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaa   288

<210> 5477
<211> 282
<212> DNA
<213> Homo sapiens

<400> 5477
cctgtaatcc cagcacttta ggaggacgag gtgggcggat cacaaggtca ggagatcgag   60
accatcctgg ctaacatggt gaaaccccgt ctctactaaa aatacaaaaa attagccggg   120
cgtggtggcg ggcgcctgta gccccagcta ctccggaggc tgaggcagaa gaatggcttg   180
aaccgggagg cggagcttgc agtgagccaa gatcgcacca ctgcactcca gcctgggtga   240
cagagcgaga ctccgcctca aaaaaaaaaa aaaaaaaaaa aa   282

<210> 5478
<211> 275
<212> DNA
<213> Homo sapiens

<400> 5478
ccctttggga ggccgaggca ggcggatcat gaggtcagga gatcgagacc atcctggcta   60
acacggtgaa accccgtctc tactaaaaat acaaaaaaaa atgccaggtg tggtggtggg   120
cgcctgtagt cccagctact tgggaggctg aggcaggaga atggcgtgaa ccaggaaggc   180
ggagcttgct gtgagccgac ctcgcaccac tgcactccag cctgggcgac agagtgagac   240
tccgtctcaa aaaaaaaaa aaaaaaaaa aaaaa   275

<210> 5479
<211> 189
<212> DNA
<213> Homo sapiens

<400> 5479
caaaaaaatt agcggggcgt agtggcgggc gcctgtagtc ccagctactt gggaggctga   60
ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga tcccgccact   120
gcactccagc ctgggcgaca gagcgagact ccgtctcaaa aaaaaaaaa aaaaaaaaaa   180
gaaatgaca   189

<210> 5480
<211> 207
<212> DNA
<213> Homo sapiens

<400> 5480
aaccccatct ctattaaaat acaaaaatta gccgggcgtg gtggcgggcg cctgtagtcc   60
cagctacttg ggaggctgag gcaggagaat ggcgtgaacc cgggaggcgg agcttgcagt   120

2521

```
gagccgagat cccgccactg cactccagcc tgggcgacag agcgagactc cgtctcaaaa    180
aaaaaaaaaa aaaaaaaaaa aaaaaga                                        207



<210> 5481
<211> 116
<212> DNA
<213> Homo sapiens

<400> 5481
agaatggtgt gaacccagga ggcggagctt gcagtgagct gagatcgcgc cactgcactc     60
cagcctgggc gacagagtga gactctgtct caaaaagaaa aaaaaaaaa aaagaa         116



<210> 5482
<211> 150
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (21)
<223> n equals a,t,g, or c

<400> 5482
ctgtagtccc agctattcgg naggctgggg caggagaatg gcgtgaaccc gggaggcgga     60
gcttgcagtg agccgagatc gcgccactgc actctagcct gggcgacaga gcgagactcc    120
gtctcaaaaa aaaaaaaaaa aaaacaactt                                     150



<210> 5483
<211> 162
<212> DNA
<213> Homo sapiens

<400> 5483
agctacttgg gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg     60
agccgagatc ccgccactgc actccagcct gggcgacaga gcgagactcc gtctcaaaaa    120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagaaca aa                       162



<210> 5484
<211> 304
<212> DNA
<213> Homo sapiens

<400> 5484
cttgcggccg ggcgcggtgg ctcacgcctg taatcccagc actttgggag gccgaggcgg     60
gcggatcacg aggtcaggaa atcgagacaa tcctgggtaa catggtgaaa ccccgtctct    120
actaaaaata caaaaaatta gctgggcgca gtggcgggca cctgtagtcc cagctactcg    180
ggaggctgag acaggagaat ggcgtgaacc cggggagcgg agcttgcagt gagccaagat    240
catgccactg cactccagcc tgggcgacag agcgagactc cttctcaaaa aataaacaaa    300
taaa                                                                 304



<210> 5485
<211> 311
<212> DNA
<213> Homo sapiens

<400> 5485
```

```
tattccattg acgggcgcgg tggctcacgc ctgtaatccc agcactttgg gaggccgagg      60
caggcggatc atgaggtcag gagatcgaga ccatcctggc taacacggtg aaaccccatc     120
tttactaaaa atacaaaaaa ttagccgggc gtggtggcgg gcacctgtag tcccagctac     180
tcaggaggct gaggcaggag aatggtgtga acccaggagg cagagcttgc agtgagctga     240
gatcgtgcca cattgcactc caacctgggc gacagagcaa gattccatct caaaaaaaaa     300
aaaaaaaaaa a                                                         311


<210> 5486
<211> 301
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (98)
<223> n equals a,t,g, or c

<400> 5486
cggtggctca cgcctgtaat cccagcactt ggggaggccg aggcgggcgg atcacgaggt      60
caggagatcg agaccatcct ggctaacacg gtgaaacncc gtctctacta aaaatataaa     120
aaattagcca ggcgtggtgg tgggcgcctg tagtcccagc tactcaggag gctgaggcag     180
gagaatggcg tgaacccggg aggcggagct tgcagtgagc cgagatcgtg ccactgcact     240
ccagcctggg cgacagagtg agactccgtc tcaaaaaaaa aaaaaaaaaa gttattcttc     300
g                                                                     301


<210> 5487
<211> 171
<212> DNA
<213> Homo sapiens

<400> 5487
agccgggcgt ggtggcgggc gcctgtagtc ccagctactt gggaggctgg ggcaggagaa      60
tggcgtgaac ctggaggtgg agcttgcagt gagccgagat cgcgccactg cactccagcc     120
tgggcaacag agcgagactc cgtctgaaaa aaaaaaaaaa aagaaataga g             171


<210> 5488
<211> 301
<212> DNA
<213> Homo sapiens

<400> 5488
ccgggcgcgg tggctcacgc ctgtaatccc agcactttgg gaggccgaga cgggcagatc      60
acgaggtcag gagatcgaga ccatcctggc taacacggtg aaaccccgtc tctactaaaa     120
atacaaaaat tagccgggca tggtggcatg cacctgtagc cccagctaca cgggaggctg     180
aggcaggaga atggcgtgaa cccgggaggc ggagcttgca gtgagtcgag atcgcgccac     240
tgcactccag cctgggcgac agagcgaaac tccgtctcaa aaaaaaaaa aaagaataag     300
a                                                                     301


<210> 5489
<211> 611
<212> DNA
<213> Homo sapiens

<400> 5489
cagttgttgg ccgggcgctg tggctcacgc ctgtaatccc agcactttgg gaggctgagg      60
cgggcggatc acaaggtcag gagatcgaga ccatcctggc taacacagtg aaaccccgtc     120
tctactaaaa atacaaaaat tagccgggcg tggtggcggg tgcctctagt cccagctgct     180
```

2523

```
gggggaggctg aggcaggaga atggcatgaa cccgggaggc agagcttgca gtgagccgag   240
atcccaccac tgcactccag tctgggtgac agagcgagac tccgtctcaa aaaaaaaaaa   300
aaaatttcag ttgtgggctg ggcgcggcag ctcacgcctg taatcccagc actttgggag   360
gctgaggcgg gaggatcacg aggtcaagag atggagacca tcctggctaa cacggtgaaa   420
ccctgtcttt actaaaagta caaaaaaaaa aattagccgg gtgtagtagc gggcacctgt   480
agtcccagct actcgggagg ccgaggcagg agaatgacgt gaacccggga ggcggagctt   540
gcagtgagct gagatcccgc cactgcactc cagcctgggc gacagaacaa gactccgtct   600
caaaaaaaaa a                                                       611


<210> 5490
<211> 291
<212> DNA
<213> Homo sapiens

<400> 5490
ccacgcctgt aatcccagca ctttgggagg ccgaggcggg cggatcacga ggtcaggaga    60
tcgagaccat cccggctaaa acggtgaaac cctgtctcta ctaaaaatac aaaaaattag   120
ccgggcgtag tggcgggcgc ctgtagtccc agctacttgg gaggctgagt caggagaatg   180
gcgtgaaccc gggaggccga gcttgcagtg agccgagata gcaccactgc actccagcct   240
gggcaataga gcgagactcc atctcaaaaa caaacaaac aaacaaacat a             291


<210> 5491
<211> 308
<212> DNA
<213> Homo sapiens

<400> 5491
ggtggctcac gcttgtaatc ccagcacttt ggaaggccga ggcgggcgga tcacgaggtc    60
aggagatcga gaccatcctg gttaacacgg tgaaaccccg tctttactaa aaatacaaaa   120
aaaattagcc gggcgtgatg gtgggcgcct gtagtcccag ctactcggga ggttgaggca   180
ggagaatggc gtgaacccgg gaggcggagc ttgcagtgag ccgagattgc gccactgcac   240
tcccgcttgg gccacagagc gagactccgt ttcaaaaaa aaaaaaaaaa aaaaaaaag   300
gaacaaga                                                           308


<210> 5492
<211> 303
<212> DNA
<213> Homo sapiens

<400> 5492
tgctgccggg cgcggtggct cacacctgta atctcagcac tttgggaggc cgaggcgggc    60
ggatcatgaa gtcaggagat cgagaccatc caggctaaca cggtgaaacc ctgtctctac   120
caaaaataca aaaaattagc tgggcttggt ggcgggcgcc tgtagtccca gatactcggg   180
aggctgaggc aggagaatgg catgaccccg ggaggcagag cttgcagtga gccgagatca   240
caccactgca ctccagcctg ggcgacaaag tgagactccg tctcaaaaaa aaaaaaaaaa   300
aag                                                                303


<210> 5493
<211> 267
<212> DNA
<213> Homo sapiens

<400> 5493
agatcacgag tcaggagatt gagaccatcc tggctaacac agtgaaaccc cgtctctact    60
aaaaatacaa aaaatcagcc gggcgtggtg gcgggcgcct gtagtcccag ctactcagga   120
ggctgaggca ggagaatggc gtgaacccgg taggcggagc ttgcagtgag ccgagattgc   180
gccactgcac tccagcctgg gcgacagagc gagactccgt ctcaaaaaaa aaaaaaaaaa   240
```

2524

aaaaagaaaa gaaaagaaaa gaaaaac

<210> 5494
<211> 129
<212> DNA
<213> Homo sapiens

<400> 5494
gaatggcgta accgggaggc ggagcttgca gtgagccgag atcgcgccac tgcactccag   60
cctgggcgac agagcgagac tccgtctcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   120
aaacaaaga   129

<210> 5495
<211> 311
<212> DNA
<213> Homo sapiens

<400> 5495
atagaaggcc aggcgcggtg gctcacgcct gtaatcccag cactttggga ggcccaggca   60
ggcagatcat gaggtcagga gattgagacc atcctggcta acatggtgaa accccgtctc   120
tactaaaaat acaaaaaatt agctgggcgt ggtggcgggt gcctgtagtc ccagctactc   180
gggaggctga ggcaggagaa tggcgtgaac ccgggaggca gagcttacag tgagccgaga   240
ttgcgccact gcattccagc ctgggcaaca gagcaagact ccatctcaaa aaaaaaaaa   300
aaaaaaaaag t   311

<210> 5496
<211> 193
<212> DNA
<213> Homo sapiens

<400> 5496
aaaaattagc cgggcgtggt ggcgggcgcc tgtagtccca gctactcgag aggctgaggc   60
aggagaatgg cgtgaacccg ggaggcggag cttgcagtga gccgagatcg cgccactgca   120
ctccagcctg ggcgacagag cgagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaaga   180
tcagaaaaaa ata   193

<210> 5497
<211> 240
<212> DNA
<213> Homo sapiens

<400> 5497
gatcacgagg tccggagatc gagaccagcc tggctaacac agtgaaaccc cgtctctact   60
aaaaatacaa aaaaattagc caggcgtggt ggcgggcgcc tgtagtccca gctacttggg   120
aggctgaggc aggagaatgg cgtgaacctg ggaggcggag cttgcagtga gccgagattg   180
tgtcactgca ctccagcccg ggtgacagag cgagactcca tctcaaaaaa aaaaaaaaaa   240

<210> 5498
<211> 297
<212> DNA
<213> Homo sapiens

<400> 5498
ctaggcgcgg tagcacgcct gtaatcccat cactttggga ggccgaggcg ggcggatcac   60
aaggtcagga gatcgagacc atcctggcta acacggtgaa accccgtctc tactaaaaat   120
acaaaaaaat tatcagggtg tggtggtggg tgcctgttgt cccagctact ggcaggctg   180

```
aggcaggaga atgggagtgaa cccgggaggc ggagcttgca gtgagctgag attgtgccac    240
tgcactccag cctgggcaac agagcgagac tctgtctcaa aaaaaaaaaa aaagaaa        297


<210> 5499
<211> 3991
<212> DNA
<213> Homo sapiens

<400> 5499
ccccgtctct actaaaatac aaaaaattag ccgggcgtag tggcaggcgc ctgtagtccc     60
agctacttgg gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg    120
agccgagatc ccgccactgc actccagcct gggcgacaga gcgagactcc gtctcaaaaa    180
aaaaaaaaaa aaaaaaaaaa aaggcgtcag cttttatcg cacaaaattg cagatcaaaa    240
gtctgaaatc aaggggttca cagaaccaca ctcctccaaa tcctgtaaaa aaaattccgt    300
ttcttgcctc ttccggctcc tgatagtggt gggtttttcct tacctgaggg gggcatcact    360
ccacccttt ttttttgtctt caccgggcct cctctctggg tctgggtctt ctgccactgg    420
atttaggggcc cactttggta atccaggagg acctcaagat tcttcattat acctgcaaag    480
accatttttg caaatgaaat catattgcac gagttctggg aatttatacc tggacatatc    540
ttttaggggg cactattcaa tatactgcat gtagcaagag aatactagcg catgtatcat    600
ctcatccaag tcttcaagag ccttgacagt tactgttatt tctcacataa gaaaaccgta    660
gtgataaaag tgaaaagcta acatttaaaa ctcgatctgt cagccaggtg cagtggctca    720
cgcctgtaat cccagcactt tgggaggcca agacaggcag atcacgaggt caggatatcg    780
agaacatcct ggctaacaca gtgaaacccc gtctctacta aaaatacaaa aaattacctg    840
ggcgtggtgg tgggcgcctg tagtcccatc tactcgggag gctgaggcag gagaatggca    900
tgaaatgggg aggcagagct ttcagtgagc caagattgcg ccactgcact ccagcctggg    960
cgacagagcg agactccgtc tcaaaaaaaa aacaaaacaa aacaaaaaaa aaacctcgat   1020
ctgtcaggat ttaagtctat tcctttagcc gctatggcat tttactacct acaaagcaga   1080
cagggccact ttctaaattg cccagcctac aggctgaatg taccagagtc ctaagccacc   1140
acaaggtccc tctgtgcacc ctccttcacc tatttgtata gccatatggc ccaccaggag   1200
tgcagaaata caggctattt cacaggtcag caggaaattc ccaattgccc tcagggctaa   1260
tcagacactc tcagccaact tctttaaaat taagttccca tttctcttag taagttctgc   1320
ttgatgcttc ataaggttca tggcaagtta aatgcattgc atattcacca ctggtaagca   1380
atgtagataa gaaattctaa agagaatatt tcatcttcat ttcaatctag caaacttata   1440
aaagtatgga tttttaaacg ggatgcaaat gacactagag cataactcat agtgacaagg   1500
agaaaggact aataaaggag tttttatgtg gtcactttga attagacctg tcagtgacac   1560
tctagtgaat attaactgtg tgcatttttc catccccctt caaactgctt ggcttaaaat   1620
tcaaataaag ttggttcctt gtgaaaaccc ccctcctggt ggcatgagag aattaatgta   1680
ctttcaaagg taaacaattt gctcctttct gcagttggag cagagctgtt atagatcatg   1740
ccaactcaaa gggaaaatag agtcaaggaa actgaagagt caaaagccaa ccacctggaa   1800
atttatgtca gtttttatgc ttaagatcct tcactgcaaa caaatatcac actttaatgc   1860
cacagcacaa taaagaaaaa cctttgactt gtgggcttgt ggaaaaagaa aaatgaaaaa   1920
gcagcattca tgtgggagtc aaaacctatc ctgcacctta gggaggaata aaaaagcccg   1980
tatgttattc ctttttatctc tgttggagcc aaggcgcaga ttgactcaat ggacaggaaa   2040
ctgacagtga tggagcaact gctgcttacc tgattgtttc atcatgctta tatcattcaa   2100
ctctcatgcc cacccttgaa agtaggcaaa atgccctcat tttagaattg acaaaaaaat   2160
tcaagcttag aaacctaaat gattaatcaa aggtcactct gttaatttgc agtgatacag   2220
agcaagccaa agacattctc agacaccaag cttacctaaa ccaacttctt tttcctgctc   2280
ctgccagcat atataaacac atgcttttaa aataatgaca ggctaaatct agcaatcaag   2340
tcattatagc attccagtaa gtctgcaagt gacatgttgt tttcaccaaa gatggaccag   2400
gatatgacat tgtctccttc tattatgccc agccagcaga ctgactgtca gatgcccact   2460
gcggtgatct gtttagcaag gtcagctgct tgattgctat gaataattgg atgccattaa   2520
taatggtcag ctccaggata taggaaagtg gtcaagcgtg gtaattgtat tttgaattcc   2580
agcagattat ttcctgggaa gcaggaagac aaccactata taggatacag ttttttctaag   2640
tagaatagaa ataattgctt ccctagaggt gaaggggaga agccaagggc tcccgtaata   2700
acatgtgtga ccatatctag taagaaacat ggaggtcaag gtttttgcaag tgatggctaa   2760
tgctatgaag cctggccatt accatcacta aaagccttta caagttcaca ttcttgttat   2820
tctcttattg agaataacac tagagcttta catgttgagg ggccaccacc taaattttga   2880
agcaccagtg aggttagacc aatggctaat taggaaatct aatacaattg atatccatct   2940
gaaaaggtca agcataaatc ttttgctgtt aaatgtgtat taaattctca ccacatatta   3000
agggctgtag atactgcaag ataattaggc aaaacattat tatcttaaaa aaaaagccct   3060
```

2526

```
gtcaaaaaat gaagggtttt taaaaatctc ccaggacata ataataaaag tgagaaatta    3120
aaaagagatt gaaaaaaaaa gcacgtgaaa aggaaaaact aaaagtgatt ttagaggata    3180
gactgcagta taggcaacac ataaagagca aaacatttca tagaaaaata taatagctat    3240
cagtttcaga ctttactaaa gaaactattt cttaaattgt caagcaatgt gggcagaaca    3300
aattaaagtt aaaacttatt atagcaaagg aaatatggat gggagcatgg aatcatgata    3360
caactgcctg aaatgaaata ttcaacacaa gcctcaattc ttgccagctt ttccattatt    3420
tgaagctacc aggagttgga tcattttgac catttttttt ttaagtattc agtgtttgga    3480
tgaactctac agtgaaaaga gataaacaat catagagcta aaattataaa actctcataa    3540
gaaaacataa ggaataagtc tttgtaacct tgggttacac aatggtttcc tggatctggc    3600
accgaaagat aggtgacaaa agaaaacact taggctgggc gtggtggctc atgcttataa    3660
tcccagcact ttgggaggcc gagctgggcg gatcatgagg tcaggagacc atcctcgcca    3720
acatggtgaa accccgtctc tactaaaaat ccaaaaaatt ggccaggcgt ggtggcttac    3780
acctgtaatc ccagcacttt gggaggccga ggtgggcgga tcaagaggtc aggagatcaa    3840
gaccatcctg gctacggtga atccccgtct ctactaaaca tacaaaaaat tagcggggcc    3900
tggtggcggg cgcctgtagt cccagctact cgggaggctg aggcaggaga atggcgtgaa    3960
cccgggaggc ggagcttgca gtgagctgag a                                   3991


<210> 5500
<211> 177
<212> DNA
<213> Homo sapiens


<400> 5500
cataaattag ccgggcgtag tggcgggcgc ctgtagtccc agctacttgg gaggctgagg     60
caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agccgagatc cgccactgc     120
actccagcct gggcgacaga gcgagactcc gtctcaaaaa aaaaaaaaaa atgagtc       177


<210> 5501
<211> 292
<212> DNA
<213> Homo sapiens


<400> 5501
ctgacgcctg taatcccagc actttgggag gccgaggtgg gcggatcacg aggtcagaag     60
atcgagacca tcctgcctaa cacggtgaaa cctcgtctct actaaaaata caaaaaatta    120
gctgggcgtg gtggcgggcg cctgtagtcc cagctactcg ggaggctgag gcaggagaat    180
ggcgtgaacc cgggaggcgg agcttacagt gagcggagat cgcgccactg cactccagcc    240
tgggtggcag agccagactc catctcaaac aaaacaaaac aaaacaaact ct            292


<210> 5502
<211> 307
<212> DNA
<213> Homo sapiens


<400> 5502
tttaaaaagt ctggccggga gcggtggctc acgcctgtaa tcccagcact ttgggaggcc     60
gaggcgggcg gatcacgagg tcaggagatc gagaccatcc cggctaaaac ggtgaaaccc    120
cgtctctact aaaaatacaa aaaaaaatt agccgggcgt ggtggcgggc gcctgtagtc    180
ccagctactt gggaggctga ggcaggagaa tggcgtgaac ccgggaggtg agcttgcag    240
tgagctgaga tcgcgccact gcaccccagc ctgggcaaca gagcgagact ccgtctcaaa    300
acaaaaa                                                             307


<210> 5503
<211> 2925
<212> DNA
<213> Homo sapiens
```

<400> 5503
```
ggccgggcga ggaggctcaa gcctgtaatc ccagcacttt gggaggcgga ggcaggtgga    60
tcacgaggtc aggagatgga gaccatcctg gataacacgg tgaaaccccg tctctactaa   120
aaatacaaaa aattagccag gcgtggtgtc aggcgcctga agtcccagct acttgggagg   180
ctaaggcagg agaatggcgt gaaccaggca ggcggagctt gcagtgagcg gagatcacgc   240
cactgcactc cagcctgggc gacagagcga cactctgtgt caaaaaaaaa aaaaaaaaaa   300
aaagccatac acatcggttg catgcacaca cacacagaag ctttaaattg cttgtatccg   360
tctcttaatt tttttggtg gagcatatat cagtgaattg ctataaagta agtgtttatg   420
gagctatatc atgattcata gtctgattac tgcttgtgag acaaacaaaa atagaatgta   480
tccatgaaaa tgaacgcaga agtatttatt atccattgat ctttgttact gtacatttat   540
aactgagtta tattgatcac ttgtttaaag tacgcaatta tataaaatat aatttttatta   600
acgaaattat atttatcatg tatgacagct accaggagag tcattgtatt ggaaactaag   660
agaagtaaat ggataacact tacactgtgc aaagtttcca ctacacgtca ttaatttctg   720
tagttcctag ataatctttt caggtagaat aaaatgtcca caaacaaaa gtaattaacc   780
aacatagatt cctgaattgc ttgctctgct acgcactctc tactcaccct catgtctaca   840
ttctgccact aactcaaata tcctaaacta ttgcacatgc catcaacccc cgcaccccgc   900
cgctaaaatg tttcaatcag actcacgcag gcaccatctg accattccct caatgctaat   960
ccataagaaa agaaaagtga cagtaggaaa acatcaggat aaacacacat aaagaaattc  1020
ttagccagtt ctgacctctg cttatatgga cgaagcagag tattacttaa gaggagccac  1080
acaggccgag cgcggtggct cacgcctgta atcccagcac tttgggaggc caaggcggct  1140
ggatcatgag gtcaggagat ggagaccatc ctggctaaca cagtgaaacc ccatctctca  1200
ctaaaaatgc aaaaaaaaat tagccgggag tggtggcagg cacctgtagt cccagctact  1260
tgagagggtg aggcaggaga atggagtgaa cccgggaggc ggagcttgca gcgagccaag  1320
ttcgcgccac tgcactccag cctgggcgac agagcgagac ttcgtctcaa aaaaaaaaa   1380
aaaaaaaaag aggaaccaca cagaagaaat ttaagggaca ctctttgtag ttggagagat  1440
actgatcaca ggtgtcactc tgttacactc ctttatattg gcctctgtag catctgttca  1500
aagaaagtat catatttacc aaaatttagc catctcatga aacttaaaaa ctttaggaat  1560
tctgccatag aactccaatg actaggaggc tgtatcagga agccttctat tgtttgcagt  1620
ggcaaaacta tagtcaacaa taatttattg tacatttaaa aataactaaa agagtataat  1680
tagattcttt gtaatacaaa aaaggacaaa tgcttgaggt gatgcttacc ctgtttaccc  1740
tgatgtgatt attacacatc atatgcctgt atcaaaatat ctcatgtacc ccataaatat  1800
gtgcacttac tatatactca caaaaattaa aaaattaaaa ttacttttaa aacttgaaaa  1860
accaataata aaatatttgc agcaataaaa taattcctat ctctactcca cacataatga  1920
ataaacattg ctacctggga gatcacttaa ggaaatttac ttttactaaa tgtcaatggc  1980
attattgatt aagcttgtca ataaacacaa gtgaaaatga ttaataaaaa aaacacacaa  2040
atgagcaaac aaaaccacca acagcaacag ggaaacaaga cttttcctga ccgaatccct  2100
atcttctcac cctgttctca gcagctgcct tatgcctttt gcaggttaga atcttagaat  2160
tgagaaataa taattgctta atttttaataa gtttctacta aatcctttac atacgttttc  2220
tccttttatc ctactacaac ccaatgtaag agtagcatta tcaccatttt acagatgaga  2280
aaactgagat gctggaggct aaataacttg ctgaaggttt taccgctaaa atgtagtaag  2340
actaagatta gaaggcagtc catctggtcc cagaaccgta agttttaact cctgtggcta  2400
ggttcttact attagccgca gatttatttc acatctgaac tttcacatat tatatgtggg  2460
caaattgcca ggaacctaag cttgatttgt tggtacaaca tcttccattc caaaatgccc  2520
gtagccagcc ctcctgaatc cctcggccta tggggctaaa aagctggttt ttttctatgg  2580
ccattcaact attttacatt ttgtcaactt gtcaaggtat catacgctat tcgtccatag  2640
atctccttaa tgtccatatc acaccctgtg gacttgcaga ggttgcacat tgaaatatga  2700
cttaccctgg taatccacat cttaatttct taataatacc catctcagcc gggcgcggtg  2760
gctcacgcct gtaatcccag gactttggga ggccgagacg gcggatcac gaggtcagga  2820
gatcaagacc atcctggcta acgcggtgaa accccgtctc tactaaaaat acaaaaaatt  2880
agccaggcgt ggtggcgggc gcctgtagtc ccagctactc gggag              2925
```

<210> 5504
<211> 263
<212> DNA
<213> Homo sapiens

<400> 5504
```
agcactttgg gaggccgagg caggcagatc acgagatgag gagatcgaga ccatcctggc    60
taacacggtg aaaccccgtc tctactaaaa atacaaaaaa ttagccaggc gtggtggcgg   120
gtgcctgtag tcccagctac tcgggaagct gaggcaggag aatgccgtga acccaggagg   180
```

```
cggagcttgc agtgagccga gactgcacca ctgcactcca gcctgggcga cagagccaga    240
ctccatctca aaaaaaaaaa aaa                                           263


<210> 5505
<211> 280
<212> DNA
<213> Homo sapiens

<400> 5505
cccagcactt tgggaggccg aggcgggcgg atcacgaggt caggagatcg aggccatccc     60
ggctaaaacg gtgaaacccc gtctctacta aaaatacaaa aaaattagcc gggcgtagtg    120
gcgggcgcct gtagtcccag ctacttggga ggctgaggca ggagaatggc gtgaacctgg    180
gaggcggagc ttgcagtgag ccgagatccc gccactgcac tccagcctgg gcgacagagc    240
gagactccgt ctcaaaaaaa aaaaaaaaaa aaaaaatagg                         280


<210> 5506
<211> 187
<212> DNA
<213> Homo sapiens

<400> 5506
aaaaatacaa aaaattagcc gggcgtcgtg gcgggcgcct gtggtcccag ctactcggga     60
ggctgaggca ggagaatggc gtgaacccgg aggcggagc ttgcagtgag ccgagatcgc    120
gccactgcac tccagcctgg gcgacagagc gagactccgt ctcaaaaaaa aaaaaaaaaa    180
aaagggg                                                            187


<210> 5507
<211> 246
<212> DNA
<213> Homo sapiens

<400> 5507
atcacgaggt caggagatcg agaccatccc ggctaaaacg gtgaaacccc gtctctacta     60
aaaatacaaa aaattagccg ggcgtagtgg cgggcgcctg tagtcccagc tactcaggag    120
gctgaggcag gagaatggcg tgaacccggg aggcggagct tgcagtgagc cgagatcccg    180
ccactgcact ccagcctggg cgacagagcg agactccgtc tcaaaaaaaa aaaaaaaaaa    240
aatgga                                                             246


<210> 5508
<211> 114
<212> DNA
<213> Homo sapiens

<400> 5508
gaggcaggag aatggcgtga accctggagg cagagcttgc agtgagccga gatcgcgcca     60
ctgcactcca gcctgggcga cagagcaaga ttccgtctca aaaaaaaaa aacg          114


<210> 5509
<211> 322
<212> DNA
<213> Homo sapiens

<400> 5509
aaaaaaaaaa aaaaaaaagg ctgggcgtgg tgactcacgc ctgtaatccc agcactttgg     60
gaggccgagg caggcggatc acgaggtcag gagatcgaga ccatcctggc taacacagtg    120
aaaccccgtt tctactaaaa atacaaaaaa ttagccgggc gtagtggcgg cgcctgtag    180
```

```
tcccagctac tggggaggct gaggcaggag aacggcataa acccgggagg cagagcttgc    240
agtgagccga gatcgcgcca ctgcactcca gcctgggcca acagagtgag actccatctc    300
aaaaaaagaa aagtgaaata ga                                             322
```

<210> 5510
<211> 173
<212> DNA
<213> Homo sapiens

<400> 5510
```
ggcgtggtgg cgggcgcctg tagtcccagc tactcgggag actgaggcag gagaatggtg     60
ggaacccggg aggcggagct tgcagtgagc cgagatcacg ccactgcact ccagccgggt    120
gacagagcga gactctgtct caaaaaaaaa aaaaaaaaaa aaaagaaaag aaa           173
```

<210> 5511
<211> 63
<212> DNA
<213> Homo sapiens

<400> 5511
```
ccactgcact ccagcctggg tggcagagca agactccatc tcaaaaaaaa aaaaaaaaaa     60
aat                                                                   63
```

<210> 5512
<211> 258
<212> DNA
<213> Homo sapiens

<400> 5512
```
tgggaggccg agctgggtgg atcacgaggt caggagatca agaccatcct ggctaacacg     60
gtgaaacccc atctctacta aaaatacaac aaattagccg ggtgtggtgg cggctgcctg    120
tagtcccagc tactcgggag gctgaggcag gagaatggca tgaacctggg aggtggagct    180
tgcagtgagc cgagatcctg ccactgcact ccagcctggg cgacagagtg agactccgtc    240
tcaaaaaaaa aaaaaaaa                                                  258
```

<210> 5513
<211> 3905
<212> DNA
<213> Homo sapiens

<400> 5513
```
ctcacgcctg taatcccagc actttgggag gccgaggcgg gcggatcacg aggtcaggag     60
ctcgagacca tcctggctaa cacggtgaaa ccccgtctct attaaaaaca caaaaaatta    120
gccgggcgtg gtggcgggcg cctgtagtcc cagctactcg ggaggctgag gcaggagaat    180
ggcgtgaacc cgggaggtgg agcttgcagt gagccgagat cgcgccactg cactccagcc    240
tgggcgacag agtgagactc catctcaaaa acaacaacaa caacaaaaaa acaaaacaaa    300
aaaaaacaaa acatatgaac ttctttcaac atcaaaatat agataaacaa tatgattttc    360
agtggctata cagtgtttta ctatgtggat atactataaa tttataaaca tctctgtgtt    420
tgggcattta ggtactttct aatttttcac tattataagt atatcactat gggtctgatc    480
aggagagaga aatttgacag ggaaagttga atgtaaatta ttaattttaa cagggattag    540
agtaacgagg gattagctaa caagaggtca aaagaactct caaaacagaa ctagcaggga    600
taaggtgcaa tcaccaagtc tcaggctgag acagaatgtc cagggaggag cccacgcccc    660
tagggctaag agaaggctca gctgagggtc cctgaatttc acagaagccc ccgtggtgcc    720
ctgctgtcag aacctcctgg agatctgccc tctgggatgc tgggggaaac tcttcatggg    780
gaagaacctc cctggaggcg ctcttgttat aaacctgccc gaggaggggg tgtgctggga    840
gaagttgctg gttctgggta ttgctggcca ctgtgcactg aaggggccag gcactgaagg    900
agttgcagtt gctgaaggag cctgccaaga ttgcaggctg gagccaggaa gcaaaaactc    960
```

```
tgacaaagga aaaagtattc aagcagcctt ggttcatttt ctttttttaaa aaatttttcaa    1020
attatttttt atttagagac agagcctctc tctatcaccc aggctggggt gcagtggcgt    1080
gatcatggct cactgcagcc tcgaactcct ggatgatcaa ccaatcctct cacctcagcc    1140
tcccaagtag ctgacactac aggtacatgc catcgtgcct agctaatttt tttttttttt    1200
ttgagacgga gtctcactct gtcacccagg ctggagtgca ttggcgcaat ctcagctcac    1260
tgcaatctcc gcttcctggg ttcacaccat tctcctgcct cagcctcccc agtagctggg    1320
cctacaggtg tctgccacca ggcccagcta atttttttt gtatttttag tagagacggg    1380
gtttcacttt gttagccagg atggtctcga tctcctgacc tcgtgatcca cccgccttgg    1440
cctctcaaag tgctgggatt acaggcgtga gccaccgcga ctggctgcct ggctaatttt    1500
ttaaagaaaa ttttctagag gtgagatctt acttttttgat gcaggatggt tttgaactcc    1560
tggcttcaag tgaacctcct gccttggctt cccaaagtgg ctgggataac aggcatgagc    1620
cactgtgccc agctggttca tcttcataga gcagccaaaa agagggaatt tgttgctgag    1680
aggcactaag ttgatatctg gcacaagaaa caaatgtttc agggaatatc cttgtatatc    1740
catcattaca tgctatctga atatttttctt acatacattc ctagacttag aattggcagg    1800
taaaaaggtg ggcacagtct acacttgaga aatacggccg tcagtaaaac ttattcacct    1860
attacatagt acttgggagc ttctagatcg tcacaattta attaaccttta ggtattgtca    1920
ttctttttaa tccttataca tctgataagc caaaaaaagt agtttttttat ttgtattttt    1980
aaaaaaatta gtagcgatgt taaaacttta ttttctttttt tattgtgaag ttcttgcctg    2040
tatcctctgc tgatttaaaa aattgggata ttcagtcttt ttcttattga tttgtacatg    2100
ctctttatat attaagtatc agaaagttta aatgttcatg tttccaaatc ttactttgtt    2160
tttcatattt aaaatcttaa ttcttttgga aatcgtttta gtttaaggtg tcaggtaggt    2220
gtttagtttt taaattttgt tccaataatg ttaactcttt tctctttttt ttcctgactg    2280
atttatatgt caacttgtgt tatatgcctg ggtatactta tggactttaa gttgttttct    2340
tctagtttct agttaattat ttttcttttt tctttcagaa caggacgcag gccttgatgc    2400
cctttcctct atcataagtc gccaaaaaca aatggggcag gaaattggga atgaattgga    2460
tgaacaaaat ggtaagaata agtctgggat tgaccagatt tgccgttgac ataaatacta    2520
aaggcttgag catttgttga atgagtttaa gattatacaa catgtaaagt ggtttaatgt    2580
caatgattgt tacagtttaa cgcattggag tggggggttgt ggcagattta gatgatagtt    2640
gttaaatact atgcaaagaa atttggtgaa aaattttcca gttctcagta gctgctttta    2700
acaatactgt gttttatgat ccattcatcc caagagcttt tcttctatgt ggcagtgata    2760
tgaaattgct cagcactttg tacactgagg ctgtgtgggc ctcctgtcat ccccacaccc    2820
ggtggagttt gctcttcttc gatcctatgt accaggcttc agggcaaaaa agggtttgaa    2880
gatctttgtt cagggtttga tgtgacaagt ctggttggaa aaagatgaat ttgcaaactg    2940
caagcagggt ggattgggga gtgtttaaga cgtgtaggca tctgcaaggc tcttggcttg    3000
aggagggcct ggatggggttg taggggcaga aaggggggaag aaatacgggg gcacgggatt    3060
gccagtgatt ttacgttaag gatgaagttg ggaaacttga gagcagacac tggttttttgg    3120
gtgagatggt aagtccagtt tgcatgtgtc taattagaga tgccggcggg agatgtccag    3180
ttgacagtgg gagacagggt accagagctc agggagaggg cggagccaaa gagaagagat    3240
gggagcagct gcagtgtaga ggtgacgtgt gacagcgtgg agtcgttgag tggcagtgaa    3300
gctggcattt atggaaagcc cccactatgt gctaagccct ttcatctatg tcatttcatt    3360
tcatctccac acaacatcat gaaggcggca ccctcctcgt gtgagaggca aaactcagag    3420
tggctgcagg gcccccctgag accacatcgc ttatgagtga cagagctaaa ctccagctca    3480
ggtcttctga ttctaacgtg actgcttttg ctgctaaact ggcttcctct ctaaagaaga    3540
caaagtagga agagaaaaag aaaatgtaaa gtattctatc taaggtttca gcttttagta    3600
ataacacgat ggaatggctt tcaagaaaag ttatcaggtg ggtgcggtgg ctcacacctg    3660
taattccaac actttgggag gctgaggcag gcggattaca aggtcaggag accagcctgg    3720
ccaacatgat gagacctcat ctctactaaa aatacaaaaa attagctggg cgtggtggcc    3780
cacacctgta gtcacagcta ctcgggaggc tgaggcagga gaattgctag aacccaggag    3840
gcggaggttg tggtgagccg agattgtacc attgcactcc agcctgggcg acagagcaag    3900
                                                                    3905
tctcc
```

<210> 5514
<211> 153
<212> DNA
<213> Homo sapiens

<400> 5514
```
cccagctact cgggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca      60
gtgagccgag atcgcgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa     120 ·
aaaaaaaaaa aaaaaaaga aagcagtggg gcc                                  153
```

<210> 5515
<211> 269
<212> DNA
<213> Homo sapiens

<400> 5515
tcccagcact ttgggaggcc gagacgggcg gatcacaagg tcaggaaatt gagaccatcc   60
tggctaacac ggtgaaaccc tgtctctact aaaaatattt aaaaattagc cgggcgtggt   120
ggcgggcgcc tgtagtccca gctactcggg aggctgaggc aggagaatgg cgtgaacccg   180
ggaggcggag cttgcagtga gccgagattg cgccactgca ctccagcctg ggcgacagag   240
cgagaccacg tctcaaaaaa aaaaaaaaa   269

<210> 5516
<211> 202
<212> DNA
<213> Homo sapiens

<400> 5516
tactaaaaat acaaaaaatt agccgggcgt agtggcgggc gcctgtagtc ccagctactc   60
gggaggctta ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga   120
tcccgccact gcactccagc ctgggcgaca gagcgagact ccatctcaaa aaaaaaaaa   180
aaaaaaaaaa aaaaaaaga aa   202

<210> 5517
<211> 203
<212> DNA
<213> Homo sapiens

<400> 5517
ccatctctac taaaaataca aaaaattagc cgggcatggt ggcgggcgcc tgtagtccca   60
gctactcggg aggctgaggc aggagaatgg cgtgaacccg ggaggcggag cttgcagtga   120
gccgagatct cgccactgca ctccagcctg ggcgacagag cgagactccg tctcaaaaaa   180
aaaaaaaag aaagacatgt aaa   203

<210> 5518
<211> 121
<212> DNA
<213> Homo sapiens

<400> 5518
ggctgaggca ggaaaatggc atgaacccgg gaggcggagc ttgcagtgag ctgagatcgc   60
agcactgcac tccagcctgg gcaacagagc gagactccat ctcaaaaaaa aaaaaaaaaa   120
a   121

<210> 5519
<211> 166
<212> DNA
<213> Homo sapiens

<400> 5519
ctgggcgtgg tggcgggtgc ctgtagtccc agctacttgg gaggctgagg caggagaatg   60
gcgtgaaccc gggaggcgga gcttgcagtg agccgagatc aggccactgc actccagcct   120
gggcaacaga gtgagactcc gtctcaaaaa aaaaaaaaaa aagata   166

<210> 5520
<211> 295
<212> DNA
<213> Homo sapiens

<400> 5520
ccgggcgtgg tggctcacgc ctgtaatccc agcactttgg gaggccgagg cgggaggatc   60
acgaggtcag gagatcaaga ccatcctggc taccaaggcg aaactccttc tctactaaaa   120
atacaaaaaa ttagccgggc gtggtggcgg cgcctgtag tcccagctac tcgggaggct   180
gaggcgggag aatggcgtga acccaggagg tggagcttgc agtgagccga gatcatgcca   240
ctgcactcca gcctgggcaa cagagcaaga ctccgtctca aaaaaaaaa gaaaa   295

<210> 5521
<211> 310
<212> DNA
<213> Homo sapiens

<400> 5521
actgagggcc gggcgtggtg gctcacgcct gtaatcccag cactttggga ggccgaggcg   60
ggcagatcac gaggtcagga gatcgagacc atcctggcta cacggtgaa accccgtctc   120
tactagaaat acaaaaaaat tagccgggca tggtggtggg cacctgtagt cccagctact   180
cgggaggctg aggcaggaga atggcatgaa cccgggaggt ggagcttgca gtaagctgag   240
atcacgccac tgcactccag cctgggcaac agagtgagac tctgtctcag aaaaaaaaa   300
gaaaagaaaa   310

<210> 5522
<211> 280
<212> DNA
<213> Homo sapiens

<400> 5522
cggatcacga ggtcaggaga tcgagaccat cctggctaaa acggtgaaac cccgtctcta   60
ctaaaaatac aaaaaattag ccgggcgtag tggcgggcgc ctgtagtccc agctacttgg   120
gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agccgagatc   180
ccgccactgc actccagctt gggcgacaga gcgagactcc gtctcaaaaa aaaaaaaata   240
aataaaaaaa aaaaaaaaaa aaaaaaaag aaagaaaaa   280

<210> 5523
<211> 190
<212> DNA
<213> Homo sapiens

<400> 5523
atcactgggc gtagtggcgg cgcctgtag tcccagctac ttgggaggct gaggcaggag   60
aatggcgtga acccgggagg cggagcttgc agtgagccga gatcccgcca ctgcactcca   120
gcctgggcga cagagcgaga ctccgtctca aaaaaaaaa aaaaaaaaa aaaaaaaaa   180
aaaaaagaaa   190

<210> 5524
<211> 278
<212> DNA
<213> Homo sapiens

<400> 5524
aatcccagca ctttgggagg ccgaggcggg cggatcaaca ggtcaggaga tcgagaccat   60
cctggctaac aaggtgaaac cccatctcta ctaaaaatac aaaaattagc ccggcgtggt   120
ggtgggcgcc tgtagtccca gctactcggg aggttgaggc aggagaatgg cgtgaaccca   180

2533

ggaggcggag cttgcagtga gccaagattg cgccactgca ctccagcttg ggtgacagac   240
cgagactccg tttcaaaaaa aaaaaaaaaa aaaagaat   278

<210> 5525
<211> 2364
<212> DNA
<213> Homo sapiens

<400> 5525
ctcactcctg taatcccagc actttgggag gccgaggcgg gcggatcacg aggtcaggag   60
atcgagacca tcctggctaa cacggtgaaa ccccgtctct actaaaaata caaaaaaaaa   120
attagccggg cgtggtagcg ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga   180
gaatggcgtg aacctgggag gcggagcttg cagtgagccg agatcgcgcc actgcactcc   240
agcctgggcg acagagcgag actccgtctc aaaaaaaaaa aaaaaaaaaa aaagaataa   300
agtataagag aacatgagtg aatgcctgtc atcttttttt tttttcttc aaaaacaggg   360
tctcactttg tcacccaggc tgcagtgcag tggcgcaatc atggctcact gcaacctcta   420
gcacctgggc tcaagagctc aagaggtcct accaactcag cctcccaagg agctgggact   480
acaggtgcat gccaccacac cctaaggtaa attttgtgt ttttatagag acaggtttta   540
ccatgttgcc caggctgttc tgaaactcct gggcttaagg gatcgaccca cctccatctc   600
ccaaggcact gggattatag gcatgagcca ccgcgcctgg cctatcatca tttattcatt   660
tattcatcta tgcaaaaata ttctttgagt gcctaattgc taagcaatgg gacaagcact   720
ggcaagtcac actggcaaaa tatcatcccg ccactcaagg agcttatagg tcagctgggg   780
agacaaagaa gaacatgggc ccttgtaatg agctaagtat ggtgctaggg gaaatatcca   840
taagttatgg gaacccagag gaattcattc atttattcgt ttagtaaata tttatgtgcc   900
aaactcttgg gacccaatgg tgacctaagc agacaagaca catccaccta cagtgtttac   960
agagtagtgt gggagacaga cattaatgaa atgctcttac agacctatca ttacctattg   1020
tcatatgagt tatgaaagaa aaataacagg ccgggcatga tggctcacgc ctgtaatccc   1080
agcactttgg gagaccaagg caggtggatc acttgaggtc aggagttcaa gaccagcctg   1140
gccaacatga tgaaacccca tctctactaa aaatacaaaa aaaaaaaat tatctgggca   1200
tggtggcagg cagctgtaat cccagctact cgggaggctg aggcaggaaa ctcgcttgaa   1260
cctgggaggc agaggttgca ctgagctgag attgcaccac tgcactccag cctgggtgac   1320
agagcaagac tctgtcaaaa aaaaaaaaaa aaagaaagg aaggaaagga aggaaggaag   1380
gaaggaagga aatagagtgt aagaggggggg cctagtgtag tctaagatga ctcaggagaa   1440
gctgtttgag ctgatgcctg aagacgggtt gcatgtaagt agttgagtag gtaaaagaga   1500
ggggtactat catatcaggg attcgggaga aaaaaaaaga gagagagaga ggggaagagt   1560
gctgtggacc cattgagctc cagcccagct ccaactctgt gggtcaggaa agactttcca   1620
gcatctaagc tgagtccaga aggatgagta ggagtgagcc agctgaggag gagctggggt   1680
ggaaggaaag cattccagag cagcagatag cttgtgcaaa ggcacacagg cagctgggtg   1740
tggtggctca cacctgtaat cccagcactg tgggaggcca agatgggtgg accgtttgag   1800
cccaggaatt caagaccaac ctggatgaca tagtgaaacc ctgtctctac caaaaaaaaa   1860
aaaaaaaaa ttgaaaaaaa aaagaagct gggcatggtg gcgtgcacct gtggtcccag   1920
ctacccagga aactgaggtg ggagggaagt cgaggctgta gtgaaccatg gtggcaccat   1980
tgcattccag cccgggtgac agagcaaggc cctgtacaaa aaaaaaaaaa aaaaagcat   2040
ggaggcaaca gaacatagtg gattggaagg aaaaacaagt ggttcagacc aggtgcagtg   2100
gctcatgcct gtaatcccag cactttggga ggccgaggcg ggcagatcac gaggtcagga   2160
gatcaagacc atcctcgcta acacagtgaa accccgtctc tactaaaaat acaaaaaaat   2220
tagccaggcg tggtggtgcg tgcctgtagt cccagctact caagaggctg aggcaggaga   2280
atggcgtgaa cctgggaggc agagcttgca gtgagcggag atcatgccac tgcactccag   2340
cctgggcgac agagcaagac tcca   2364

<210> 5526
<211> 304
<212> DNA
<213> Homo sapiens

<400> 5526
aaaaggccgg gtgcggtggc tcacacctgt aatcccagca ctttgggagg ccgaggcagg   60
cggatcatga ggtcaggaga tcgagaccat cctggctaac acggtgaaac cccgtctcca   120
ctaaaaatac aaaaaattag ccgggcacgg tggcgggcgt ctgtagtccc agctactagg   180

2534

```
gaggctgagg caggagaatg gtgtgaaccc aggaggcgga gcttgcagtg agccaagatc      240
gcgccactgc agtccagcct gggcgaaaga gcagactccg tctcaaaaaa aaaaaaaaaa      300
aaaa                                                                   304


<210> 5527
<211> 261
<212> DNA
<213> Homo sapiens

<400> 5527
ggatagtgag gtcaggagat cgagaccatc ctggctaaca cggtgaaacc ccctctctac       60
taaaaataca aaaaattagc cgggcgtggt agcgggcgcc tgtagtccca gctactcggg      120
aggctgaggc aggagaatgg cgtgaacccg ggaggcggag cttgcagtga gccgagatcg      180
cgccactgca ctccagcctg ggcgacagag cgagactccg tctcaaaaaa aaaaaaaaaa      240
aaaaaagaaa aagggataaa a                                                261


<210> 5528
<211> 297
<212> DNA
<213> Homo sapiens

<400> 5528
tggctcactc gtgtaatcca gcactttggg aggccgaggc gggcagatca caagatcagg       60
agatcgagac cttcctggct aacacggtga aaccccgtct ctactaaaaa tacaaaaaat      120
tagccgggcc tagtggcggg cgcctgtagt cccagctact cgggaggctg aggcaggaga      180
atggcatgaa cccgggaggc ggagcttgca gtgagcccag atcgtgccac tgcactccag      240
cctgggcgac agagcgagac tccgtctcaa aaacaacaac aacaaacaa aacacca         297


<210> 5529
<211> 108
<212> DNA
<213> Homo sapiens

<400> 5529
ctgaggcagg agaatggcgt gaacccagaa ggcggagctt gcagtgagcc aagatcgtgc       60
cactgcactc cagcctgggc gacagagcga gactccatct caaaaaaa                   108


<210> 5530
<211> 312
<212> DNA
<213> Homo sapiens

<400> 5530
gtcctgggcc gggcgcggtg gctcacgcct gtaatcccag cactttggga ggccgaggcg       60
ggcggatcac gaggtcagga gatcgagacg atcccggcta aaacggtgaa accccgtctc      120
tactaaaaat acaaaaaatt agccgggcgt agtggcgggc gcctgtagtc ccagctactt      180
gggaggctga ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga      240
tcccgccact gcactccagc ctgggggaca gagcgagact ccgtctcaaa aaaaaaaaaa      300
aaaaagactg tc                                                          312


<210> 5531
<211> 158
<212> DNA
<213> Homo sapiens

<400> 5531
```

```
gcctgtagtc ccagctactc gggaggctga ggcaggagaa tggcatgaac ccaggaggcg      60
gagcttgcag tgagcagaga tcgcgccact gcactccagc ctgggcaaca gagcgagact     120
ctgtctcaga aaaaaaaga aaaaagaaaa aagaaaat                              158


<210> 5532
<211> 298
<212> DNA
<213> Homo sapiens

<400> 5532
ttgggccggg cgcagtggct cacgcctgtc atcccagcac tttgggaggc cgagacgggt      60
ggatcacgag gtcaggagat cgagaccatc ctggctaaca cggtgaaacc ccgtctctac     120
taaaaataca aaaaattagc cgggcgtgtt ggcgggcgcc tgtagtccca gctactcggg     180
aggctgaggc aggagaatgg cgtgaacccg ggaggcggag cttgcagcga gcggaaatcg     240
caccactaca ctccaggctg ggggacagaa cgagacccca tctcaaaaaa aaaaagaa      298


<210> 5533
<211> 237
<212> DNA
<213> Homo sapiens

<400> 5533
aggtcaggag atggagacca tcctggctaa catggtgaaa ccccgtctct actaaaaata      60
caaaaaatta gccgggcgtg gtggcaggcg cctgtagtcc cagctactcg ggaggctgag     120
gcaggagaat ggcgtgaatc caggtggagc ttgcagtgag ctgagatcgc gccactgcac     180
tccagcctgg gtgacagagt gagactccat ctcaaaaaaa aaaaaaaaa aaaaga         237


<210> 5534
<211> 296
<212> DNA
<213> Homo sapiens

<400> 5534
ggctgggcgc ggtggctcac gcctatgatc ccacactttg ggaggccgag gtgggcggat      60
catgaggtca ggagatcgag accatcctgg ctaatacggt gaaaccccgt ctctactaaa     120
atacaaaaaa ttagccgggc gtggtggcgg gtgcctgtag tcccactact cgggaggctg     180
aggcaggaga atggcgtgaa cccaggaggc agagcttgca gtgagcggag atcatgccac     240
tgcactccag cctgggtgac agagcaagac tccatctcaa aaaaaaaaa aaagaa        296


<210> 5535
<211> 311
<212> DNA
<213> Homo sapiens

<400> 5535
agggataggc cgggcgcggt ggctcacgcc tgtaatccca gcactttggg aggccgagac      60
gggcggatca cgaggtcagg agatcgagac catcctggct aacatggtga aaccctgtct     120
ctactaaaaa tacaaaaaaa attagccggt tgtggtggcg agtgcctgta gtcccagcta     180
ctccagaggc tgaggcagga gaatggcatg aacccgggag gcagagcttg cagtgagccg     240
agatcgtgcc actgcacttg agcctgggcg acagagcaag actccatctc aaaaaaaaaa     300
aaaaaaaaa a                                                          311


<210> 5536
<211> 294
<212> DNA
<213> Homo sapiens
```

<400> 5536
gcttggaggc tcatgcctgt aatcccagca ctttgggagg ccgaggcggg cggatcacaa   60
ggtcaggaga tcgagaccat cctggctaac acggtgagac cctgtctcta ctaaaaatac   120
aaaaaattag ccaggcgtgg tggcgggcgc ctgtagtccc agctactcgg gaggctgagg   180
caggagaatg gcgtgaaccc gggagcggac ttgcagtgag ccgagatcgc gccactgcac   240
tccagcccgg gcaacagagc gagactctgt ctcaaaaaaa aaaaaaaaaa agct   294

<210> 5537
<211> 303
<212> DNA
<213> Homo sapiens

<400> 5537
aaggaggccg ggcgcggtgg ctcacgcctg taatcccagc actttgggag gccaaggagg   60
gcggatcacg aggtcaggag atcgagacca tcctggctaa cacagtgaaa ccctgtctct   120
actaaaaata caaaaaacta gctgggcatg gtggcggatg cctgtagccc cagctacttg   180
ggaggctgag gcaggagaat ggcgtgaacc cgggaggcgg aggttgcagt gagcggagat   240
tgcgccactg cactccagcc tgggggacag agccagactc cgtctaaaaa aaaaaaaaaa   300
aaa   303

<210> 5538
<211> 191
<212> DNA
<213> Homo sapiens

<400> 5538
aaaaaacaaa aaattagccg ggcgtagtgg cgggcgcctg tagtcccagc tacttgggag   60
gctgaggcag gagaatggcg tgaacccggg aggcggagct tgcagtgagc cgagatcccg   120
ccactgcact ccagcctggg cgacagagcg agactccgtc tcaaaaaaaa aaaaaaaaaa   180
aaaaaaagtt a   191

<210> 5539
<211> 193
<212> DNA
<213> Homo sapiens

<400> 5539
cgggcgtggt agcgggcgcc tgtagtccca gctactcggg aggctgaggc aggagaatgg   60
cgtgaacccg ggaggcggag cttgcagtga gccgagatcg cgccactgca ctccagcctg   120
ggcgacagag cgagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaattgac   180
tcctaatcaa aaa   193

<210> 5540
<211> 195
<212> DNA
<213> Homo sapiens

<400> 5540
aaatacaaaa attagccggg cgtagtggtg ggcgcctgta gtcccagcta ctcgggaggc   60
tgaggcagga gaatggcgtg aacccgggag gcggagcttg cagtgagccg agatcccgcc   120
actgcactcc agcctgggcg acagagcgag actccgtctc aaaaaaaaaa aaaaaaaga   180
taattctaac aaaca   195

<210> 5541
<211> 281

<212> DNA
<213> Homo sapiens

<400> 5541
cactttggga ggccgaggcg ggcggatcac gaggtcagga gatcgagacc atcctggcta   60
acacggggaa accccgtctc tactaaaaat acaaaaaatg agccgggcgc ggtggcgggc   120
gcctgtggtc ccagctactc gggaggctgg ggcaggagaa tggcgcgaac ccgggaggcg   180
gagcttgcag tgagccgaga tcgcgccacc gcactccagc ctgggcgaca gagcgagact   240
ccgtctcaaa aaaaaaaaaa agaaaaagaa aaaggacaac a   281

<210> 5542
<211> 301
<212> DNA
<213> Homo sapiens

<400> 5542
atagccgggc gcggtggctc atgcctgtaa tcccagcact ttgggaggct gaggtgggca   60
gatcacgagg tcaggaaatc gagaccatcc tggctaacac ggtgaaaccc atctctact   120
aaaaaataca aaaaattagc cgggcgtggt ggtgggtgcc tgtagtccca gctactcagg   180
aggctgaggc aggagaatgg tgtgaacccg ggaggtggag cttgcagtga ccgagatcg   240
cgccactgca ctccagcctg ggcgacagaa caagactccg tctcaaaaat aaataaataa   300
a   301

<210> 5543
<211> 310
<212> DNA
<213> Homo sapiens

<400> 5543
agccgggcgc ggtggctcac gcctgcaatc ccagcacttt gggaggccaa ggcgggcaga   60
tcacaaggtc aggagatcga gaccatcctg gctaacacgg tgaaaccccg tctctactaa   120
aaatacaaaa acaaaactag ccgggcttgg tggtgggcgc ctgtagtccc agctactcaa   180
gaggctgagg caggagaatg gcgtgaactc gggaggcgga gcttgcaatg agccgagatc   240
gcgccactgc actccagcct gggcgacaga gcgagactcc gtctcaaaaa aaaaaaaaaa   300
aaaaaaaaaa   310

<210> 5544
<211> 297
<212> DNA
<213> Homo sapiens

<400> 5544
gtgcggtggc tcacgcctgt aatcccagca ctttgggagg ccaagccggg cggatcatga   60
ggtcaggaga tcgagaccat cctggctaac acggtgaaac cctgtctcta ctaaaaatac   120
aaaaaattag ccgggcgtgg tggcgggtgc ctgtagtccc agctactcgg gaggccgagg   180
caggagaatg gtgtgaaccc gggaggtgga gcttgcagtg agccgagatc gggccactgc   240
actccagcct gggcgacaga gcaagactct gtctcaaaaa aaaaaagaa atggaaa   297

<210> 5545
<211> 182
<212> DNA
<213> Homo sapiens

<400> 5545
tactaaaaat acaaaaagtt agccgggcga agtggcgggc gcctgtagtc ccagctactc   60
gggaggctga ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaaa   120
tcgcgccact gcactccagc ctgggtgaca gagcgagact ccgtctcaaa aaaaaaaaaa   180

2538

<210> 5546
<211> 303
<212> DNA
<213> Homo sapiens

<400> 5546
ataggctggg cgcggtggct cacgcctgta atcccagcac tttgggaggc cgaggcaggc   60
ggatcatgag gtcaggagat cgagaccatc ctggctaaca cggtgaaacc cagtctctac   120
taaaaataca aaaaattagc tgggtgtgct ggcaggcatc tgtagtccca actactcggg   180
aggctgaggc gggagaatgg catgaacctg ggaggcggag cttgcagtga ccgagatca   240
cgccactgca ctccagcctg ggcgacagag tgagactacc tctccaaaaa aaaaaaaaaa   300
aaa   303

<210> 5547
<211> 297
<212> DNA
<213> Homo sapiens

<400> 5547
gggcgcggtg gctcacgtct gtaatcccag cactttggga ggccgagggg ggcggatcac   60
gatgtcagga gatcgagacc atcctggcta acatggtgaa accctgtctc tgctaaaaat   120
acaaaaaatt agcagggcgt ggtggcgggc gcgtgtagtc ccagctactc aggaggctga   180
ggcaggagaa tggagtgaac ccaggaggcg gacgtgcagt gagccgagat cgcgccactg   240
cactccagcc tgggcgacag agcaagactc cgtctcaaaa aaaaaaaaaa aaaaaaa   297

<210> 5548
<211> 323
<212> DNA
<213> Homo sapiens

<400> 5548
aaaaaactat ttttcggccg ggggggggtgg atcacgcctg taatcccagc actttgggag   60
gccgaggcgg gcagatcacg aggtcaggag atcgagacca tcctggctaa cacggtgaaa   120
ccccgtctct actaaaaaaa caaaaaatta gccgggcgtg gtagcgggag cctgtagtcc   180
cagctactcg ggaggctgag gcaggagaat ggcgtgaacc cgggaggcgg agcttgcagt   240
gagccgagat cgcgccactg cactccagcc tgggcgacag agcgagactc cgtctcaaaa   300
aaaaaaaaaa aaaaaacaa aaa   323

<210> 5549
<211> 277
<212> DNA
<213> Homo sapiens

<400> 5549
ataagtcact ttgggaggcc gagacgggcg gatcacgagg tcaggagatg gagaccatcc   60
tggctaacac ggtgaaaccc cgtctctact aaaaatacaa aaaattagc cgggcgtagt   120
ggcgggcacc tgtagtccca gctactccgg aggctgaggc aaggagaatg gcgtgaacct   180
gggaggcgga gcttgcagtg agccgagatg cgccactgc actccagcct gggtgatgga   240
gcgagacttg tctcaaaaaa aaaaaaaaaa agaataa   277

<210> 5550
<211> 303
<212> DNA
<213> Homo sapiens

<400> 5550
gccgggcgtg gtggctcacg cctgtaatcc cagcactttg ggaggctgag gcaggcggat   60
cacaaggtca ggagatcgag accatcctgg ctaacacggt gaaacccctc tctactaaaa   120
atacaaagaa ttagccgggt gtggtggcgc acgcctgtag tcccagctac tcgggaggct   180
gaggcaggag aatggcggga acccgggagg cagagcttgc agtgagccaa gatcgtgcca   240
ctgcactcca gcctgggtga cagagcgaga ctccacctca aaaaaaaaaa aaaaaaaaaa   300
gaa   303

<210> 5551
<211> 309
<212> DNA
<213> Homo sapiens

<400> 5551
cctgtaatcc cagcactttg ggaggccgag gcgggcggat cacaaggtca ggagatcgag   60
accatcccgg ctaaaacggt gaaaccccgt ctctactaaa aatacaaaaa attagccggg   120
cgtagtggcg ggcgcctgta gtcccagcta cttgggaggc tgaggcagga gaatggcgtg   180
aacccgggag gctgagcttg cagtgagccg agatcccgcc actgcactcc agcctgggcg   240
acagagcgag actccgtctc aaaaaataaa aataaaaata aaaataataa ataaaaataa   300
aaaataaaa   309

<210> 5552
<211> 310
<212> DNA
<213> Homo sapiens

<400> 5552
ggacgggcgc ggtggctcac gcctgtaatc ccagcacttt gggaggccga ggcgggcgga   60
tcacgaggtc aggagatcga gaccatcccg gctaaaacgg tgaaaccccg tctctactaa   120
aaatacaaaa aattagccgg gcgtagtggc gggcgcctgt agtcccagct acttgggagg   180
ctgaggcagg agaatggcgt gaacccggga ggcggaggtt gcagtgagcc gagatcccgc   240
cactgcactc cagcctgggc gacagagcga gactccgtct caaaaaaaaa aaaaaaaaaa   300
aaaaaaaaat   310

<210> 5553
<211> 247
<212> DNA
<213> Homo sapiens

<400> 5553
aggccgaggc gggcggatca cgaggtcagg agatcgagac caacctggct aacacagtga   60
aaccccgtct ctaccaaaat acaaaaaatt agccggggggt agtggcgggc gccttgtagt   120
cccagctact tgggaagctg aggcaggaga atggcatgaa ccagggaggc ggagcttgca   180
gtgagccgag atcgcaccac tgcactccag cctgggcgac acagcaagac tccgtctcaa   240
aaaaaaa   247

<210> 5554
<211> 175
<212> DNA
<213> Homo sapiens

<400> 5554
ccaaaaatta gccgggcgtg gtggcgggcg cctgtagtcc cagctactcg ggaggctgag   60
gcaggagaat ggcgtgaacc cggGaggcgg agcttgcagt gagctgagat cgcgccattg   120
cactccagcc tgggcgacag agccagactc agtctccaaa aaaagaaga aaaga   175

<210> 5555
<211> 311
<212> DNA
<213> Homo sapiens

<400> 5555
```
actgtcttag gccaggcgtg gtggctcacg cctataatcc cagcactttg ggaggccaag      60
gtgggcggat cacgaggtca ggagatcgag accatcctgg ctaacacggt gaaaccccgt     120
ctctgctaaa aatacaaaaa attagccggg catggtggcg ggcgcctgta gtcccagcta     180
ctcgggaggc tgaggcagga gaatggcgtg aacccaggag gcgcagcttt cagtgagccg     240
agatcgcgcc actgcactcc agcctgggcg acagagctaa actccgtctc aaaaaacaaa     300
acaaaacaaa a                                                         311
```

<210> 5556
<211> 183
<212> DNA
<213> Homo sapiens

<400> 5556
```
gaaaaattta gccgggcgtg gtggcgggcg catgtagtcc cggctactcg ggaggctgag      60
gcaggagaat ggcgtgaacc cgggaggcgg agcttgcagt gagccgagat ggcgccactg     120
cactccagcc tgggcgacag agcgagactc cgtctcaaaa aaaaaaaaa aaataataat     180
gaa                                                                  183
```

<210> 5557
<211> 292
<212> DNA
<213> Homo sapiens

<400> 5557
```
tggctcaagc ctgtaatccc agcactttgg gaggtcgagg cgggcggatc acgaggtcag      60
gagatcgaga ccatcctggc taacacggtg aaaccttgtc tctactaaaa atacaaaaat     120
tagccgggca tagtggcggg cgcctgtagt cctagctact cgggaggctg aggcaggaga     180
atggcgtgaa cccgggaggt ggagcttgca gtgagctgag attgcgccac tgcactccag     240
cctgggtgac agagtgagac tccgtctcaa aaaaaaaaa aaaattaaaa aa             292
```

<210> 5558
<211> 93
<212> DNA
<213> Homo sapiens

<400> 5558
```
gagctggcag tgagccgaga tcccgccact gcactccagc ctgggcgaca gagcgagact      60
ccgtctcaaa aaaaaaaaa aaaaaaaga aaa                                    93
```

<210> 5559
<211> 287
<212> DNA
<213> Homo sapiens

<400> 5559
```
ttgtaatccc agcactttgg gaggccgagg cgggcggatc acaaggtcag gagatcgaaa      60
ccatcctggc tgacacggtg aaaccccgtc tctactaaaa atacaaaaaa atggccgggt     120
gtggtggcga gcacctgcct gtagtcccag ctactcggga ggctgaggca ggagaatggc     180
ttgaacccgg gaggcggagc ttgcagtgag ccgagatcgc gccactgcac tccagcctag     240
gcgacagagc aagactccct ctccaaaaaa aaaaaaaaa aaaaaaa                   287
```

2541

<210> 5560
<211> 136
<212> DNA
<213> Homo sapiens

<400> 5560
ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga ttgtgccact   60
gcactccagc ctgggcgaca gagtgagact ccgtctcaaa aaaaaaaaaa aaaaaaaaaa   120
aaaaaaaaaa aaaaaa   136

<210> 5561
<211> 273
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (18)
<223> n equals a,t,g, or c

<400> 5561
tcttttggga ggccgagncg ggcggatcac gaggtcagga gatcgagacc atcctggcaa   60
acacggtgaa accccgtctc tactaaaaat acaaaaaaat tagccgggcg tggtggcggg   120
cgcctgtagt cccagctact cgggaggctg aggcaggaga atggcgtgag cccgggaggc   180
ggagcttgca gtgagcggag atcgcgccac cgcacttcag cctgggcgac agagcaagac   240
tcttgtctca aaaaaaaaaa aaaaagtgg cag   273

<210> 5562
<211> 296
<212> DNA
<213> Homo sapiens

<400> 5562
cgggcgcggt ggctcacgcc tgtaatccca gcacttgggg aggccgaggc gggcggatca   60
cgatgtcagg agatcgatac catcctggct aacacggtga agccccatct ctactaaaaa   120
tacaaaaaat tatccgggcg tggtggcggc cgcctgtagt cccagctact cgtgaggctg   180
aggcaggaga atggcatgaa cccgggaggc ggagcttgcc gtgagccgag attgcgccac   240
tgcactccag cctgggcgac agagccagac tccgtctcaa aaacaaacaa acaaaa   296

<210> 5563
<211> 308
<212> DNA
<213> Homo sapiens

<400> 5563
agggccgggc gcggtggctc atgcctgtaa tcccagcact ttgggaggcc gaggcgggcg   60
gatcacgagg tcaggagatc gagaccatcc tggctaacgt ggtgaaaccc cgtctctact   120
aaaagtacaa ataaaaaatt agccgggcgt ggcggtgggc gcctgtagtc ccagctactc   180
gggaggctga ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga   240
ttgcgccact gcactccagc ctgggcgaca cagcaagact ccgtctcaaa aaaaaagtt   300
gaaaagct   308

<210> 5564
<211> 138
<212> DNA

<213> Homo sapiens

<400> 5564
cgggaggctg aagcaggaga atggcgtgaa cccaggaagc ggagcttgca gtgagccgag   60
attgcgccac tgcactccag cctgggtgac agagccagac tcggtctcaa aaaaaaaaaa   120
aaaaaaaaaa aaaagaaa   138

<210> 5565
<211> 243
<212> DNA
<213> Homo sapiens

<400> 5565
tcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaaccccg tctctactaa   60
aaatccaaaa aattagccgg gcgtggtggt gggcgcctgt agtcccagct actcgggagg   120
ctaaggcaga agaatggcag gaacctggga ggcggagctt gcagtgagcc gagatcacgc   180
cactgcactc cagcctgggc gacagagcga gactccgtct caaaaaaaaa aaaaaaaaaa   240
att   243

<210> 5566
<211> 296
<212> DNA
<213> Homo sapiens

<400> 5566
gcgcggtggc tcaagcctgt aatcccagca ctttgggaaa ccgaggcggg tggatcacaa   60
ggtcaggaga tcgagaccat cctggctaac acggtgaaac cccatctcta ctaaaaaata   120
caaaaaaact tagccgggtg tggtggcggg cgcctgtagt cccagctact caggaggctg   180
aagcaggaga atggcgtgaa cccgggaggc ggagcttgca gtgagccgag atcgcgccac   240
tgcactccag cctgggggac agagcgagac tccatctcaa aaaaaaaaa aaaaaa   296

<210> 5567
<211> 202
<212> DNA
<213> Homo sapiens

<400> 5567
ctactaaaaa tacaaaaaat tagccgggcg tggtagcggg cgcctgtagt cccagctact   60
cgggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca gtgagccgag   120
atcgcgccac tgcactccag cctgagtgac agagcgagac tccgtctcaa aaaaaaaaa   180
aaaaaaaaag gttaatatgt aa   202

<210> 5568
<211> 248
<212> DNA
<213> Homo sapiens

<400> 5568
gaggtggatg gatcatgagg tcaggagatc gagaccatcc tggctaacac agtgaaaccc   60
cgtctctact aaaaatacaa aaaattagcc aggcgtgatg gcgggcgcct gtagtcccag   120
ctactcggga ggctgaggca ggagaatggc gggaacctgg gaggcggagc ttgcagtgag   180
ccaagatcgc gccactgcac cccagcctgg gtgacagagc gagactccgt ctcaaaaaaa   240
aaaaagaa   248

<210> 5569
<211> 192

<212> DNA
<213> Homo sapiens

<400> 5569
aatacaaaaa attagccggg cgtagtggcg ggcgcctgta gtcccagcta cttgggaggc   60
tgaggcagga gaatggcgtg aacccgggag gcagagcttg cagtgagccg agatcccgcc   120
actgcactcc agcctgggcg acagagcgag actccgtctc aaaaaaaaa aaaaaaaaag   180
aagtagacaa aa   192

<210> 5570
<211> 320
<212> DNA
<213> Homo sapiens

<400> 5570
atggtggctc acgcctgtaa tcccagcact ttgggaggcc gaggcgggcg gatcacgagg   60
tcaggagatt gagaccatcc tggctaacac ggtgaaaccc cgtctctact aaaaatacaa   120
aaaaattagc cgggcgtggt ggcgggcacc tgtagtccca gctactcagg aggctgagac   180
aggagaatgg cgtgaacccg ggaggcagag cttgcagtga gccgagattg caccactgca   240
ctccagcctg ggcaacagag caagactccg tctcaaaaaa aaaaagaaa aaagaaaaga   300
aaagaaaaga aaacgaagtc   320

<210> 5571
<211> 274
<212> DNA
<213> Homo sapiens

<400> 5571
atgcctgtaa tcccacactt tgggaggccg aggcaggcgg atcacgaggt caggagatcg   60
agaccatcct ggctaacacg gtgaaaccct ttctctacta aaaatacaaa aaattagccg   120
ggcgtggtgg cggtcgcccg tagtcccagc tactcgggag gctgaggcag aagaatggcg   180
tgaacctggg aggcagagct tgcagtgagc cgagatcggt ccactgcatt ccagcctggg   240
tgacagagcg agactccgtc tcaaacaaaa aaaa   274

<210> 5572
<211> 308
<212> DNA
<213> Homo sapiens

<400> 5572
caggccgggc gcggtggctc acgcctgtaa tcccagcact ttgggaggcc gaggcgggcg   60
gatcacgagg tcaggagatc gagaccatcc tggctaacac ggtgaaaccc cgtctctact   120
aaaaatacaa aaaattagcc gggcgtggtg gtgggcgcct gtaatcccag ctactcggga   180
ggctgaggca ggagaatggc atgaacccaa gaggcggagc ttgcagtgag ccgggatagc   240
gccactgcag tccagcttgg gcgaaagagt gagactccgt ctcaaaaaaa aaaaaaagtt   300
gaataaac   308

<210> 5573
<211> 153
<212> DNA
<213> Homo sapiens

<400> 5573
gggcgtggtg gcgggcgcct gtagtcccag ctactcggga ggctgaggca ggagaatggc   60
gtgaacccgg gaggcggagc ttgcagtgag ctgagatcac cccactgcac tccagcctgg   120
gcgacagagt gagactctgt ctcaaaaaaa aaa   153

2544

<210> 5574
<211> 300
<212> DNA
<213> Homo sapiens

<400> 5574
gctcacgcct gtaatcccag cactttggga ggccgaggcg ggcggatcac gaggtcagga   60
gatcgagacc atcctggcta acacggtgaa accccatctc tactaaaaat acaaaaaatt   120
agccgggcgt ggtagcgggc gcctgtagtc ccagctactc gggaggctga ggcaggagaa   180
tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga tcgcgccact gcactccagc   240
ctgggcgaca gagcgagact ccgtctcaaa aaaaaaaaaa aaaaaaaaaa aaaaaattaa   300

<210> 5575
<211> 308
<212> DNA
<213> Homo sapiens

<400> 5575
ggtctgccag gcgcagtggc tcacgactgt aatcccagca ctttgggagg ccgaggcggg   60
cggatcacga ggtcaggaga tcgagaccat cctggctaac acggtgaaac ccggtctcta   120
ctaaaaatac aaaaagttag ccgggcgtgg tggcgggcgc ctgtagtccc atctactcgg   180
gaggctgagg caggagaatg gcgtgaaccc gggaagtgga gcttgcagta agccgagatc   240
gtgccactgc actccagtct gggcgacaga gcgagactcc gtctcagaaa ataaacaaac   300
aaaaaatc   308

<210> 5576
<211> 150
<212> DNA
<213> Homo sapiens

<400> 5576
ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg aacccgggag   60
gcggagcttg cagtgagctg agatcgcgcc actgcactcc agcctgggcg acagagcgag   120
actctgtctc aaaaaaaaaa aagaattggc   150

<210> 5577
<211> 279
<212> DNA
<213> Homo sapiens

<400> 5577
aatcccagca ctttgggagg ccgaggcggg cagatcacga ggtcaggaga tcgagaccat   60
cctggctaac acggtgaaac cctgtctcta tgaaaaatac aaaaaattag ccgggcgtgg   120
tggcgggcgc ctgtagtccc agctacttgg gaggctgagg caggagaatg gtgtgaaccc   180
aggaggcaga gcttgcagtg agcggagatc gggccactgc agtccagcct gggcaacaga   240
gcaagactcc gtctcaaata aaaaacaaaa caaaacaaa   279

<210> 5578
<211> 198
<212> DNA
<213> Homo sapiens

<400> 5578
aaccccgtct ctactaaaaa tacaaaaaaa ttagctgggc gtggtggtgg gcgcctgtag   60
tcccagctac tcgggaggct gaggcaggag aatggcgtga acccaggagg cggcttgcag   120
tgagccgaga tcgcgccact gcactccagc ctgggtgaca gagcgagact ctgtctcaaa   180

aaaaaaaaaa aagcaatt

<210> 5579
<211> 287
<212> DNA
<213> Homo sapiens

<400> 5579
acgcctgtaa tcccagcact ttgggaggcc gaggtgggcg gatcacgagg tcaggagatc   60
aagaccatcc tggctaacac ggtgaaaccc cgtctctact aaaaatacaa aaaattagcc   120
gggcgtggta gcgggcgcct gtaatcgggg gtactccgga ggctgaggca ggagaatggc   180
gtgaacccgg gaggcggagc ttgcagtgag ccgagattgc gccactgcac tccagcctgg   240
gcgacagagc gagacttcat ctcaaaaaaa aaaaaaaaaa aaaaaaa   287

<210> 5580
<211> 135
<212> DNA
<213> Homo sapiens

<400> 5580
ctactcagga ggctgaggca ggagagtggc gtgaacccgg gaggcagagc ttgcagtgag   60
ccgagatcgc gccactgcac tccagcctgg atgacagagc aagactccgt ctcaaaaaaa   120
aaagaaaaaa agaca   135

<210> 5581
<211> 266
<212> DNA
<213> Homo sapiens

<400> 5581
atttgggagg ccgaggcggg cggatcacaa ggtcaggaga tcgagaccat cctggctaac   60
acggtgaaac cccgtctcta ctaaaaatac aaaaaaatta cccgggcgtg gtggtgggcg   120
cctgtggtcc cagctactcg ggaggctgag gcaggagaat ggtgtgaacc cgggaggcgg   180
agcttgcagt gagccgagat cgcaccactg cactccagcc tgggcgacag agcgagactc   240
catctcaaaa aaaagaaat aagaaa   266

<210> 5582
<211> 322
<212> DNA
<213> Homo sapiens

<400> 5582
cggccgggcg cggtggctga cgcctgtaat cccagcactt tgggaggccg aggcgggcgg   60
atcacgaggt caggagatcg agaccatcct ggctaacacg gtgaaacccc gtctctacta   120
aaaatacaaa aaattagccg ggcgtggtag cgggcgcctg tagtcccagc tactcgggag   180
gctgaggcag gagaatggcg tgaacccggg aggcggagct ttcagtgagc cgagatcgcg   240
ccactgcact ccagcctggg cgacagagcg agactccgtc tcaaaaaaaa aaaaaaaaaa   300
aaaaaaaaaa aaaaaaaat tc   322

<210> 5583
<211> 250
<212> DNA
<213> Homo sapiens

<400> 5583
gggcggatca cgaggtcagg agatcgagac catcctggct aacacggtga aaaccctgtc   60

```
tctactaaaa atacaaaaaa ttagccaggc ttggtggcgg gcgcctgtag tcccagctac      120
tcgggaggct gaggcaggag aatggcgtga acccgggagg cggagcttgc agtgagctga      180
gatcgcacta ctgcactcca gcctgggcga cagagcgtga ctccgtctca aaaaaaagca      240
attagaaact                                                            250


<210> 5584
<211> 142
<212> DNA
<213> Homo sapiens

<400> 5584
cccagctact caggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca       60
gtgagccgag atcccgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa      120
aaaaaaaaaa aaaaaaaatg ga                                              142


<210> 5585
<211> 40
<212> DNA
<213> Homo sapiens

<400> 5585
tgagactccg tctcaaaaaa aaaaaaaaaa agtgaaaagg                            40


<210> 5586
<211> 181
<212> DNA
<213> Homo sapiens

<400> 5586
caaaagttag ccgggcgtag tggcgggcgc ctgtggtccc agctactcgg gaggctgagg       60
caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agccgagatc gcgccactgc      120
actccagcct gggtgacaga gcgagactcc gtctcaaaaa aaaaaaaaaa aaaaaaagat      180
t                                                                     181


<210> 5587
<211> 281
<212> DNA
<213> Homo sapiens

<400> 5587
tcccagcact ttgggaggcc taggcgggcg gatcacgagg tcaggagatg gagaccatcc       60
tggctaacac ggtgaaaccc cgtctctact aaaaatacaa aaaaaatta gccgggcgtg      120
atggcgggcg cctgtagtcc cagctactca ggaggctaag gcaggagaat ggcatgaacc      180
caggaggcag agcttgcagt gagccaagat ggcgccactg cactccagcc tgggcgacag      240
agcgagactc cgtctcaaaa aaaaaaagac aacaacaaca a                         281


<210> 5588
<211> 122
<212> DNA
<213> Homo sapiens

<400> 5588
cgggaggctg aggcaggaga atggcgtgaa cccaggaggc ggagcttgca gtgagccgag       60
atcgcgccac tgctctccag cctgggcgac agagcaagac tctgtctcaa aaaaaaaaaa      120
ga                                                                    122
```

2547

<210> 5589
<211> 123
<212> DNA
<213> Homo sapiens

<400> 5589
aggcaggaga atggcgtgaa cccgggaggc ggagcttgca gtgagccgag atcccgccac   60
tgcactccag cctgggcgac agagcgagct ccgtctcaaa aaaaaaaaaa aaaaatgctg   120
tta   123

<210> 5590
<211> 176
<212> DNA
<213> Homo sapiens

<400> 5590
aaaattagcc gggcataatg gcgggtgcct gtagtcccag ctactcagga ggctgaggca   60
ggagaatggc atgaacccag gaggcggagc ttgcagtgag tggagatcgc gccactgcac   120
tccagcctgg gcgacagagc gagactccgt ctcaaaaaaa aaaaaaaaaa aaaatc   176

<210> 5591
<211> 270
<212> DNA
<213> Homo sapiens

<400> 5591
tgggaggccg aggcaggtgg atcacgaggt caggagatcg agaccatcct ggctaacacg   60
gtgaaacccc gtctctacta aaaatacaaa aaattagccg ggcgtggtgg cgggcgcctg   120
tagtcccagc tactcgggag actgaggcag gagaatggcg tgaacccggg aggcggagct   180
tgcagtgagc cgagatcgcg cccctgcact ccagcctggg cgacagagcg agactccgcc   240
tcgaaaaaac aaaaacaaaa acacaaagtc   270

<210> 5592
<211> 301
<212> DNA
<213> Homo sapiens

<400> 5592
ggccaggcac ggtggcttac gcctgtaatc ccagcagttt gggaggccga ggcaggcgga   60
tcacgaggtc aggagatcga gaccatcctg gctaacacgg tgaaaccccg tctctactaa   120
aaatacaaaa aaaattagcc gggcgtgttg gcgggtgcct gtagtcccag ctactcggga   180
ggctgaggca ggagaatggc atgaacccag gaggcggagc ttgcagtgag ccgagattgt   240
gccactgcac tccagcctgg gcaacagagc aagactctgt ctcaaaaaaa aaaaaaaaag   300
a   301

<210> 5593
<211> 237
<212> DNA
<213> Homo sapiens

<400> 5593
catcctggct aacacggtga accccgtct ccactaaaaa tacaaaaaat tagccgggcg   60
tggtggcggg cgcctgtagt cccagccact cgggaggctg aggcaggaga atggcgtgga   120
cccgggaggc ggagcttgca gtgagcggag atcgcgccac tgcactccag cctgggcgac   180
tgagcaggac tccgtctcaa aaaaaaaaaa aagaaagaa aaaagaaag aaagaaa   237

2548

<210> 5594
<211> 301
<212> DNA
<213> Homo sapiens

<400> 5594
cccggtggct cacgcctgta atcccagcac tttgggaggc cgaggcgggc ggatcacaag   60
gtcaggagat cgagaccatc ctggctaaca cggtgaaacc ccgtctctac taaaaataca   120
aaaaattagc tgggcgtcgt ggcgggcgcc tgtggtccca gttactctgg aggctgaggc   180
acgagaatgg cgtgaaccca ggaggcggag cttgcagcga gctgagatcg caccactcca   240
ctccagcctg ggcaacagag cgagactctg tctcaaaaaa aaaaaaaaaa aaaaaaaaat   300
c   301

<210> 5595
<211> 88
<212> DNA
<213> Homo sapiens

<400> 5595
gcggaggttg cagtgagctg agatcgcgcc actgcactcc agcctgggcg acagagcaag   60
aatccatctc aaaaaaaaaa aaaaaag   88

<210> 5596
<211> 278
<212> DNA
<213> Homo sapiens

<400> 5596
cctgtaatcc cagcactttg ggaggcctag gcgggtggat cacgaggtca ggagattgag   60
accatcctgg ctaacatgga gaaaccctgt ctctactaaa aatacaaaaa attagccggg   120
cgtagtggcg ggcgcctgta gtcccagcaa ctcgggaggt tgaggcagga gaatggtgtg   180
aacctgggag gtggagcttg tagtgagccg agatcgcgcc actgcactct agcctgggca   240
acacagcgag actccgtctc aaaaaaaaaa aaaaaaga   278

<210> 5597
<211> 214
<212> DNA
<213> Homo sapiens

<400> 5597
ccccgcctct actaaaaata caaaaaatta gccgggcgtg gtggcgggcg cctgtggtcc   60
cggctactcg ggaggctgag gcaggagaat ggcgtgaacc cgggaggcgg agcttgcagt   120
gagccgaggt cgcgccactg cactccagcc tgggcgacag agcgagactc cgtctcaaaa   180
aaaaaaaaaa aaaaaaaaaa aagattacac aata   214

<210> 5598
<211> 299
<212> DNA
<213> Homo sapiens

<400> 5598
ataggccagg cgcggtggct cacgcctgta atcccagcac tttgggaggc caaagcgggc   60
ggatcacgag gtcaggagat cgagaccatc ctggctaaca cggtgaaacc ccgtctctac   120
taaaaataca aaaaattagc ccgctgtggt ggcgagcgcc tgtagtccca gctacttggg   180
aggctgaggc aggagaatgg catgaacccg ggaggtggag cttgcagtga gccgagatca   240
caccaccgca ctccagcctg ggtgacagca cgagactccg tctcaaaaaa aagaaaaga   299

2549

```
<210> 5599
<211> 297
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (22)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (29)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (94)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (261)
<223> n equals a,t,g, or c

<400> 5599
aaagttggct gggcgcgatg cntcacgcnt gtaatcccag cactttggga ggccgaggcg      60
ggtggatcac gaggtcagga gatcgagacc atcntggcta gcacggtgaa accccgtctc     120
tactaaaaat acaaaagatt agccgggcgt ggtggcgggc gcctgtagcc ccagctactc     180
gggaggctga ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga     240
tcgcgccact gcactccagc ntgggcgaca gagcgagact ccgtctcaaa aaagaaa       297


<210> 5600
<211> 177
<212> DNA
<213> Homo sapiens

<400> 5600
ccgggcacgg tggcgggcgc ctgtagtccc agctactcag gaggctgagg caggagaatg      60
gcatgaaccc gggaggcgga gcttgcagtg agccgagatc gcgccactgc actccaccct     120
gggcgacaga gcgagactcc gcctcaaaaa aaaaaaaaaa aaaaaaaaaa gaaggtc       177


<210> 5601
<211> 296
<212> DNA
<213> Homo sapiens

<400> 5601
aagccaggca cagtggctca cgcctgtaat cccagcactt tgggaggctg aggcgggtgg      60
atcatgacgt caggagatca agaccatcct ggctaacatg gtgaaacccc gtctctacta     120
aaaatacaaa aaaattagcc aggtgtggtg cgggcacct gtagtcccag ctacttggga     180
ggctgaggca ggagaatggc gtgaacccgg gaggcggagc ttgcagtgag ccgagatcgc     240
gccactgcac tctagcctgg gcaacagagc gagactccat ctcaaaaaaa aaaaaa       296


<210> 5602
<211> 318
```

2550

<212> DNA
<213> Homo sapiens

<400> 5602
```
tgactttggc cgggcgcggt ggctcacgcc tgtaatccca gcactttggg aggccgagac    60
gggcggatca cgaggtcagg agatcgagac catactggct aacacggcga aaccccgtct   120
ctactaaaaa taccaaaaat tagctgggcg tggtggcggg cgcctgtagt cctagctact   180
taggaggctg aggcaggaga atggagtgaa cccgggaggc ggagcttgca gtgagccaag   240
atcgcgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa aaaaaaaaa   300
aaaaaaaaaa aaagaaca                                                 318
```

<210> 5603
<211> 275
<212> DNA
<213> Homo sapiens

<400> 5603
```
accactttgg gatggcgagg cgggcggatc acgaggtcag gagatcgaga ccatcctggc    60
taacacagtg aaaccctctc tctactgaaa atacaaaaaa aattatctgg gcatggtggc   120
gggcgcctgt agtcccagct actcgggagg ctgaggcagg agaatggcgt gaacccggga   180
ggcggagctt gcagtgagcc gagatcgcgc cactgcactc cagcctgggt gacagagtga   240
gactccgtct caaaaaaaaa aaaaaaagaa aaaaa                              275
```

<210> 5604
<211> 154
<212> DNA
<213> Homo sapiens

<400> 5604
```
tgtagtccca gctactcggt aggctgaggc aggagaatgg cgtgaaccca ggaggccgag    60
gttgcagtga gctgagatag caccactgca ctccagcctg ggcgacagag cgagactccg   120
tctcaaaaaa aaaaaaaaaa aaaaaagggg ccgc                              154
```

<210> 5605
<211> 177
<212> DNA
<213> Homo sapiens

<400> 5605
```
caccaaccac tcgggcatgg tggcgcgcgc ctgtagtccc agctacacgg caggctgagg    60
caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agttgagatc gcgccactgc   120
actccagcct gggcgacaga gcgaaactcc gtctcaaaaa aaaaaaaaaa agacaaa     177
```

<210> 5606
<211> 187
<212> DNA
<213> Homo sapiens

<400> 5606
```
aaaatacaaa aaatagccgg gcgtagtggc gggcgcctgt agtcccagct actcaggagg    60
ctgaggcagg agaatggcgt gaacccggga ggcggagctt gcagtgagcc gagatcgcgc   120
cactgcactc cagcctgggc gacagagcca gactccgtcc cccagccacc aaaaaaaaaa   180
aacaatt                                                            187
```

<210> 5607
<211> 307

2551

<212> DNA
<213> Homo sapiens

<400> 5607
gccgggcgcg gtggctcacg cctgtaatcc cagcactttg ggaggccgag gcgggcggat   60
catgaggtca ggagatcgag accatcctgg ctaacacggt gaaaccccat ctctactaaa   120
aatacaaaaa attagccagg cgtggtggcg ggcgcctgta gtcccagcta ctcgggaggc   180
tgaggcagga gaatggcgtg aacctgggag gcggagcttg cagtgagccg agatcgcgcc   240
actgaactcc agcctgggcg acagagcgag actccgtctc aaaaagaaaa taaaaaagaa   300
aaatttc   307

<210> 5608
<211> 166
<212> DNA
<213> Homo sapiens

<400> 5608
ggcgtgcgcc tgtagtccca gctactcggg aggctgaggc aggagaatgg cgtgaacccg   60
ggaggcggag cttgcagtga gccgagatcg tgccactgca ctccagcctg ggtgacagag   120
caagactccg tctcaaaaaa aaaaaacaaa aaaaacatgt aggcag   166

<210> 5609
<211> 1209
<212> DNA
<213> Homo sapiens

<400> 5609
attcacacct gtaatcccag cactttggga ggccgaggca ggcagatcac aaggtcagga   60
aattgagacc atcctggcta acacggtgaa accccatctc tactaaaaat acaaaaaatt   120
agccgggcat agtggtgggc gcctgtagtc ccagctactc gggaggctga ggcaggagaa   180
tggcgtgaac ccaggaggca gagcttgcag tgagcagaga tggcaccact gcactccaac   240
ctgggagaca gagcgatact ccgtctcaaa aaaaaaaaa ttagctgggt gtggtggcac   300
acacctatag tcccagctac ttgggaggct gaggtgggag gatcatctga gcccaggaga   360
tggaggctgc agtgagttta tgattgtgcc actctgcgct ccaacctggg caacagagcg   420
agaccttgtc taaaaaaaaa aaagtgggcc aggcgtggtg gctcatgcct gtaatcccag   480
cactttggga ggccaaggtg ggcagatcat ctgaggtcag gagttcgaga ccagcctgac   540
caaaatggca aaaccccatc tctaataaaa atacaaaaaa attagccagg cgtggtggta   600
tgtgcctgta atcacagcta ctagggaggc tgaggcagga gaatcgctgg aaccaggaag   660
cgggattgta gtgagccaag atcgtgccat tgcactgcag cctgggtgac agagcaagac   720
tctgtatcaa agaaaaaaaa aaaaaaaggt caggattgcc cagggcctat gggaagggag   780
agatgaattg gcagattttt agcacaacga atatgatact gtgcactgtg aatatgatac   840
tgtgcactgt gaatatgata ctgtatgata ctataatgcc agatacaaga catatgcacc   900
ttggccaggc acagtggctc atgcctgtaa ccccagcact ttgggaggca gaggcaggca   960
gattacctga ggtcaggaat tcgagaccag tctggccaac atggcaaaac cccgtctctg 1020
ctaaaaatac aaattagctg ggcgtggtgg cacatgcctc tagtcccagc tactcgggag 1080
gctgaggcag gagaacagct tgaacccggg acatagaggt tgcagtgatc cgagatcgcg 1140
ccaccacact ccagcttggg tgacagagca agacaccctc tcaaaaaaaa aaaaaaaaaa 1200
aaaaaaaa   1209

<210> 5610
<211> 142
<212> DNA
<213> Homo sapiens

<400> 5610
cctcagctac tcgggaggct gaggcaggag aatggcgtga acccgggggg tggagcttgc   60
agtgagccaa gatcgcgcca ctgcactcca gcctgggtga cagagcgaga ctccgtctca   120
aaaaaaaaaa aaaaaaaact ta   142

2552

<210> 5611
<211> 306
<212> DNA
<213> Homo sapiens

<400> 5611
tggggccggg cgcagtggct cacgcctgta atcccagcac tttgggaggc cgaggcgggc   60
ggatcacgag gtcaggagat cgagaccgtc ctggctaaca cggtgaaacc ctgtctctac   120
taaaaataca aaaaattagc cgggtgtggt ggtgggcacc tgtagtccca gctactcaga   180
gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agccgagatc   240
gcgccaccgc actccagcct gggcgacaga gtgagaatcc gtctcaaaaa aaaaaaaaaa   300
aagact   306

<210> 5612
<211> 3098
<212> DNA
<213> Homo sapiens

<400> 5612
ctcatatttt tcccagacgc ggaggttggg gtcatggcgc cccgaagcct cctcctgctg   60
ctctcagggg ccctggccct gaccgatact tgggcggggtg agtgcggggt ccagagagaa   120
acggcctctg tggggaggag tgaggggccc gcccggtggg ggcgcaggac tcagggagcc   180
gcctccggag gagggtctgg cgggtctcag cccctcctcg cccccaggct cccactcctt   240
gaggtatttc agcaccgctg tgtcgcggcc cggccgcggg gagccccgct acatcgccgt   300
ggagtacgta gacgacacgc aattcctgcg gttcgacagc gacgccgcga ttccgaggat   360
ggagccgcgg gagccgtggg tggagcaaga ggggccgcag tattgggagt ggaccacagg   420
gtacgccaag gccaacgcac agactgaccg agtggccctg aggaacctgc tccgccgcta   480
caaccagagc gaggctggtg agtgaacccg gccgggggcg caggtcacga ccaccccca   540
tccgccacgg accgcccggg tccctcagag tctccggatc cgaaatctac cccgaggcag   600
cgggacccgc ccagaccctc cacccgggag agtcccaggc gcctttaccc aggttcattt   660
tcagtttagg ccaaaatccc cgcgggttgg gcggggaggg ggcggggcta gctgggcggg   720
gctgactgcg gggaccggct agggtctcac accctccagg gaatgaatgg ctgcgacatg   780
gggcccgacg gacgcctcct ccgcgggtat caccagcacg cgtacgacgg caaggattac   840
atctccctga cgaggacct gcgctcctgg accgcggcgg acaccgtggc tcagatcacc   900
cagcgcttct atgaggcaga ggaatatgca gaggagttca ggacctacct ggagggcgag   960
tgcctggagt tgctccgcag atacttggag aatgggaagg agacgctaca gcgcgcaggt   1020
accagggccc atgggcgcct tccctatctc ctgtagatct cttgggatgg cctcgcacaa   1080
ggttgggagg aaagtggacc caatgctagg atatcgccct ccctctagtc ctgagtagga   1140
agaatcttcc tggctttcga gatccggtac cagagagtga ctgtgagagt ccgccctgct   1200
ctctgggaca attaagggat gaaatttctg agggaatgga gggaagacag tccctggaat   1260
accgatccgc ggtccccttt gagccctcca acagccttgg gccccgtgac ttttctctca   1320
agttttgttc tctgcctcac actcaatgtg tttgaggctc tgattccagt ccctcggcct   1380
ccacttaggt cagggccaga agtccctgct cccccctcag agactctaac tttccaagga   1440
ataggagatt ttcccaggtg tctgtgtcca ggctggtgtc tgggttctgt gctcccttcc   1500
ccaccccagg tgtcctgtcc attctcaggt tggtcacatg ggtgctgctg gggtttccca   1560
tgaggagtgc aaagtgcctg aatttttctga ctcttctcag atcctccaaa ggcacacgtt   1620
gcccaccacc ccatctctga ccatgaggcc accctgaggt gctgggccct gggcttctac   1680
cctgcggaga tcacgctgac ctggcagcgg gatggggagg aacagaccca ggacacagag   1740
cttgtggaga ccaggcctgc aggggatgga accttccaga agtgggccgc tgtggtggtg   1800
cctcctggag aggaacagag atacacatgc catgtgcagc acgagggggct gccccagccc   1860
ctcatcctga gatggggtaa ggagggagat gggtaaagag gggaacgagg ggtcatgtct   1920
tttctcaggg aaagcaggag cccttctgga gctcttcagc agggtcaggg ctgaggcctg   1980
gagatcaggg cccctcacct tcccttcctt tcccagagca gtctccccag cccaccatcc   2040
ccatcgtggg catcgttgct ggccttgttg tccttggagc tgtggtcact ggagctgtgg   2100
tcgctgctgt gatgtggagg aagaagagct caggtaggaa ggggtgagga gtggagtctg   2160
agttttcttg tcccactggg ggttgcaagc cccaagtaga agtgtgccct gcctcattac   2220
tgggaagcac catccacact catgggtcta cccagcctgg ccctgtgtg ccagcaccta   2280
ctcatttgta aagctcctgt gaaaatgaag gacagattct tcacttcgat gattatggtg   2340

```
gtgatgggac ctgatcccag cagtcacaaa tcacagggga aggtccctgc tgatgacaga    2400
cctcaggagg gcagttggtc caggacccac atctgctttc ttcatatttc ttgatcctgc    2460
cctggatcta cagttacact tttctggaaa cttctctggg atcaaagact aggggtttgc    2520
tctaggacct tatggccctg cctcctttct ggcctctcac aggacatttt cttcccatag    2580
atagaaacag agggagctac tctcaggctg caggtaagat gaaggaggct gatccctgag    2640
attgttggga tattgtggtc aggagcctat gagggagctc acccacccca cagttcctct    2700
agccacatct gtgggctctg accaggtcct gttttgttc taccccaatc actgacagtg    2760
cccagggctc tggggtgtct ctcacagcta ataaaggtga cactccaggg caggggccct    2820
gatgtgagtg gggtgttggg ggggaacaga ggggactcag ctgtgctatt gggtttcttt    2880
gacttggatg tcttgagcat gaaatgggct atttagagtg ttacctctca ctgtgactga    2940
tacgaatttg ttcatgaata ttttctctat agtgtgagac agcttccttg tgtgggactg    3000
agaagcaaga tatcaatgta gcagaattgc acttgtgcct cacgaacata cataaatttt    3060
aaaaataaag aataaaaata tatcttttta tagataca                            3098
```

<210> 5613
<211> 131
<212> DNA
<213> Homo sapiens

<400> 5613
```
ttttttttt gagacagagt ctcgctctgt cgcccaggct ggagtgtagt ggcgcgatct      60
tggctcactg caagctccgc ctcccgggtt cacaccattc tcctgcctca gcctcccaag     120
tagctgggac t                                                         131
```

<210> 5614
<211> 214
<212> DNA
<213> Homo sapiens

<400> 5614
```
ttctgtttgt tagttttcct tctaacagtc aggcccctct tctgcaggtc tgctggagtt      60
tgctgggggt ccactccaga ccctgtttgc ctgggtatca ccagcagagg ctgcagaaca     120
gcaaagattg ctgcctgctc cttcctctgg aagcttcgtc ccagaggggc acccagcaga     180
tgccagccag agctctcctg tatgaggtgt ctgt                                 214
```

<210> 5615
<211> 1096
<212> DNA
<213> Homo sapiens

<400> 5615
```
ggcagctttc ttacaaaccc atccttctga aatgttgctt caaattcatc ctctgctccc      60
cagtcccact attccacaca tactgttact gtttctttat cctactttct caattttgga     120
acatagttgc agttactgca ttgaatacct gtgggtttgc ctgttgttct gtctgtctct     180
gtggttcttg taatagtgga tcccagagat aaaatggaca gttgtaatgc acagttaatt     240
cagaaactag accttacttg ctgtgtgaaa taccaactaa attctcagtg aactcagctg     300
agctttatct cctttgttt ccccaattta taatttcagt tcaggcccag aaagatggaa     360
tcccagctaa gaaatacaag ttacaccctg tactagcagc ccatgtgtgc atgttcttta     420
agtgctcttg cagctatgtc atttatattg attttccctg tattattata agcaaagcaa     480
atttgaggaa aaaaacccat aataccacac ctcattttt tcaagtaata gggtcataag      540
tctcattctt catataatat gttgagtatg caatatatta tgtgttaggc tctggaaagg     600
cagaggttag atcatgttac agatcatatc tgattaggca gataaacagt attttaacct     660
tttccttatt atatgtaact tgctttcagg ttttttaatg ttactattat gtctttaata     720
tattatcttt atttgtactt ttgtatacag aagtgatttt cctttttaa aaaaaattgt     780
gtctttagga tggactccaa agatgtggaa tcagtaggtt taaggaatat ggatattttg     840
gctggcaagg tggctcacac ctgtaatccc agcactttgg gaggctgagg tgggtggatc     900
acctgaagtc aggagttcga gaccagcctg accaacttgg cgaaaccctg tttctactaa     960
agacacacaa aaaattagcc agtggtggtg gcatgtgctt gtagtcccac ttagctactc    1020
```

2554

```
gagaggctga ggcaggagaa tcgcttgaac ccgggaggca gaggttgcag tgaggcaaga    1080
tggcacctct acactc                                                    1096


<210> 5616
<211> 268
<212> DNA
<213> Homo sapiens

<400> 5616
cggccgaatt ctgccctccg ctaacgagct atagctttgt ggaaatgggc gagtggcgtg      60
cccttgtgag cctcagggcc gcatctgtaa aatgggcata actgtcatgc ctgtctttaa     120
gaacagcctt gggggtaaat gagtggaact catggaaaga tctcagccca caaccttcca     180
cagaacaggc gcttctcaca cagtaagtag caggagtgca gaggctgcag gcatgaatcc     240
agccagactg cctgggttca agtcccag                                        268


<210> 5617
<211> 293
<212> DNA
<213> Homo sapiens

<400> 5617
catgaacgct aatgcacttt acatcttcca tcagtgcttt cttatttatt tctataaagg      60
cggtattaat atctgaattt aagagtccaa gagaatgtac cgcttttatt aatggtctaa     120
gatctttat tttgttaaga aatggaagat gtgaaaagca aagacattta ttatcatgtt      180
gtcatttta ttctctttcc ctgcctagaa catagccatt aaaatataca tactatcatt     240
tatttttaaa gttgttaata tattttatat acttttttcca ataaaatgta tga           293


<210> 5618
<211> 4802
<212> DNA
<213> Homo sapiens

<400> 5618
tttaatttca aacgttaata tattttctat tttatattgg acatatgcat ctgtaacccc      60
tcatttgcag caactatcac atcctcataa aaggggcaaa atttgtaaga tgcctcttaa     120
aataaatatt cttttttata aaataataaa acttcaaata aatattcttt acactaaaca     180
atatgttgaa aaaattagaa aataaaggtt gaattttact gtaactgtac aatatacatg     240
aagtccaaag ggaaatcaga gtcttacaat aaaggctttc tgtaaggcaa aatacaatct     300
aaaaacatac tgattgattc acattcttcc gaatgtacaa catattagta taatatttttg     360
tgtctgtgcc atgtagtatg gcacaacttg tttttcacag ttgcaaatat tattgtatat     420
acaaaaatat agcacattct ctctggagaa aacaatggaa aaaagtcatc tgctaattta     480
caagttttgc aagtactatt cacaaacaaa aactttgcct aggagtgtct gtgttgctttt     540
agcttatgca atacatgggt caccaagttc tgtatctcat actttgagct ccattagctg     600
agttctaaca agcatatcag ttaaaacggc acatggacaa aaagcatttc accgcaaaca     660
gcaaagacta tcccaacttt ctattaacag tgccaagatt ataactgttt agttggttgc     720
atatgtgtat taaaaaaga cagaaaaaat cctcattact gtaatattcc tgattaatga     780
tgctatgttg gttttttcaaa gttcctaggg gggacagtgg gaactttgca gcaaactgtg     840
tttgagtttt tacagcggca accaggcctg ttaacccggt cataacaccc ctggcacaat     900
ttaaggcaac ccttggctgg aaggtaacac cataaacaag gcaaaaagag ggacatgaca     960
cccatggctg accatcgtgt acaacagtga gactggctgc aagaacatgg gttgtcagca    1020
cagttgtcct catcatcatt agaacagtga tagaagagac ctttcacaca gcatacacaa    1080
gtcccatagt caatcacgtt ctgggccgag caaaggcact gcttgtcgca gatccagtct    1140
gatggcagag gccttgggta ggtgcactcc ttacatttgc acttgccaca gtcctcacac    1200
ctgtaggcgt gcaggcccaa atcttccttg ctcagtggct taagctcacc tggcttgagc    1260
tcagatttgg gttgcacccg gattatgcca tcagcaacag gcccggagga gaaggatgat    1320
cctagcagtc tctgttcaga ggagctgctg ctggtacttg tcctcgtact gctccgcgac    1380
cctgagctga ccgtgcttat ggatctggac agagaggctc gtgcagaaga atggacctgc    1440
gagtgctgga gcctaggagg ctggcggtgc tcaggcagac cgtggagtct ctcgtgtttg    1500
```

```
tgctgagtgg aggggcgagg agcaggcttg agcccaggtc ttgggacgac agtaggcccc   1560
tctgtgtact cattggtgtt tcggatggct ctgatctgat ccagagacaa gacatgtacc   1620
tgctgggtga gggcgtctct ggggtcgggc tccccacgct gtctgccacc gtcacggggc   1680
gtctgcagca agggctgcga cccgttgcca ctctgagctc tggcctccat caggtcttgg   1740
aagtgtggtc actccagcag gcttagaaca catctgaact cctgaggaag ccaagaggaa   1800
agaacggttg atactctaag atacttccca ctctccaccc acctgaattg actcctcact   1860
tcccactttc cctagagaaa caggatttga aatggaatgg cagtagggag gtattagcca   1920
tatgatcaac aacgcatgta cccaaaagta aaaattacgg cgggctactg acaattctgt   1980
aatcctgtga cgtacaacaa tacaaaactg atctttgagt cacttaagta agaattcctt   2040
attcaaagaa acatacaatt tgtaaggttc aggttcaacg taaaaatcgc aaggaagtat   2100
tgctggaata taacactgct accaatgttt tcaaaagttg aaaatccttt caaaatttga   2160
aataggtttc catttgtcat agtcattttt gccttaagcg ttaataatgc aacctagaag   2220
attctttctt ggttcttaat ttttactttt acatcaaaca ctttaactgt gacgtatacg   2280
gcattctgta acttttttcaa accaggtaga atgaatatgg catgcaaaaa agtaaatacc   2340
caaattctac aacaatcatg ccatttttta ttaattgtat agtagcacaa agttatagaa   2400
ctaaaagcaa atcaaatcct attaggtgcc agaaacacat taaagcaaac ttaacaagaa   2460
gaagacatga atttattttc aacttctcaa caacttaaga attaactatt ttacagtctg   2520
atagcctaga acaccacctt agattctgca gctaaaggt tgttctccct gctaattgag   2580
aacacaaacg aagtgataat aaccagaaaa gcgttttaaa aattcaaatg tcacatttcg   2640
tatctagcat tctgtcaagg aattccttaa actgcagtcc ttcttcaatt tcaaaacgat   2700
cacccccttt cccaagccta tatgacaata aaaagtataa aacaggcaaa agtggacctt   2760
tatccgatct ccgctcttta gaatagaggc cacagcgaac aaggcaggtg acaaacgtct   2820
cccaattcgg agcaaggcag tgctggaaac cggatctcct cacctccaaa agaatggcag   2880
aagacaacgc tgctctttgc tttcacttag tttatcgcct ctctgtgccc caacaccgtc   2940
cccagcaggt gggacacagc cgatccccag gggagtttct ccaggcggac tgacgctgtc   3000
catgggccag gctgcccccc tgcttacgat ccccagactc agacaggcgg gggccgcggg   3060
cgcctccgaa gggtacgtgt cacgaaatgc aggagcacac ttcccccgcc tccctctccc   3120
cagctaagat ctcccccaac tcaagagaac tgccttccag ccccaaggag ccactccgcc   3180
cccaggcaga ggtcacgccg cccactgcca ggctttctgc aaagcccctc ggacatccgg   3240
cacaggtttc ccaccccgac actgcgagca cgaaagccct gcctgagaca cgcagccagg   3300
acgcacaagt ccaacccacg cacacacagc gactccacgc tgcactgacc gaagggggca   3360
ttgcctgtaa tctgcacacg cctatctcct tttgggtcga gagaaaaaaa aaagatatca   3420
tatttcttaa agtgaaagaa aaatggcttt ttaaaaaaag ggcatttttcc agggtcccac   3480
tgctcactcc gggcgcgcag gacccagctc ccggagctgt aaactttcgg tgcagatttg   3540
cttgcagtca aagtagcatc tttgaaataa aagggggctt ttttgttttt atttttttaag   3600
tgatttctgc cgatccgatc cctggcctcc ttcttcaaag ctggactccc tacctccgcc   3660
cctcttctct ttcccagtcc cccctcccct ttgaaagtgc tttgaaaccc ccattaagaa   3720
cagtgtgtga tcagactgag gattagggga aaagaacttc agctctaggg tggggcaaac   3780
ggacacagaa actgctttgt aaaaaacaca caagaatcca aattaaaaca cagcaacaac   3840
aacaacaaaa ggaaataaaa aattgcctat tttgccacct actttcaggt aatggaaaat   3900
gatcgcgacc gcttgatgac tttcttcctg cgctgggtca gcccgagctt ccaaaaataa   3960
aataagtgtg acccaggctg accacgaaga acggaagaga gagagctgca cttccgaacc   4020
gcagagaccc ggcgccaggc agggcgacgc tccccacccgc tccgggctag actgtccaca   4080
cggagcagag gcgggcactc cctccacccg gcacctgcc ttttctcac cctggaagtc   4140
tcctgccccc gaggcgggca acctgtgtcc cccagcccca ccagcgcccc gcctagggac   4200
agcctctccc tggactttgc cttccaccaa gaggaagaac aggttagaaa tgcgggcgcc   4260
tgcaaaggca acctggaaaa tacaaagtgt ttttctctcc ctctcccgct ctcagcgccg   4320
aattcgcggc cagtgcacgg ctgggagcag acttcaggct agctgtcctc cgtcccaacc   4380
ccctagagcg cgggcgcgcg gggtcgcctg tcggggacac tgcacggggt gcatacagaa   4440
gtccccgcag aggcaggccg agcccaagcc ccgggcgagg caggtccgcg gggagcgccc   4500
cggatcctcg cgaagaccct gcgggatttg agaaagggag gctcggggag agacggaccc   4560
aactcctggt ccggctgcac ctactccatg ttgcccacaa cgcgccggcc gcggcgccag   4620
gaggggaaga gccaaacgtg cctcaccgtg atcgcggctt tgcaccaacc cctctccctt   4680
ggattctctt ctttctgcga tgtgcaaata aatccagtct cgatgcaaac ttttttcctt   4740
tctttccaac ctctgcttta gaccaacttc cgagcaatcg gcgggagaaa aaagagaat   4800
tc                                                                   4802
```

<210> 5619
<211> 160
<212> DNA

2556

<212> Homo sapiens

<400> 5619

```
gcctgcctgc ctctgtagac tccacctctg ggggcagggc atagccaaac aaaaggcagc      60
agaaacctct gcagacttaa atgtccctgt ctgacagctt tgaagagagt agtggttctc     120
ccagcatgca gctggagatt tgagaacgga cagactgcct                           160
```


<210> 5620
<211> 906
<212> DNA
<213> Homo sapiens

<400> 5620

```
ccccagagtg tgatgttcct cttcctgtgt ccatgtgttc tcattgttca attcccacct      60
atgagtgaga atatacagtg tttggttttt tgttcttgcg atagtttact gagaatgatg     120
atttccaact tcatccatgt ccctacaaag gacatgaact catcattttt tatggctgca     180
tagtattcta tggtgtatat gtgccacatt ttcttaatcc agtctattat tgttggacat     240
ttaggttggt tccaagtctt tgcaatagtg aatagtgccg caataaacat acgtgtgcat     300
gtgtccttat agcagcatga tttatagtcc tttgggtata tagcaaagga tggctgggtc     360
aaatggtatt tctagttcta gatccctgag gaatcgccac accgacttcc acaatggttg     420
aactagttta cagtcccacc aacagtgtaa aagtgttcct atttctccac atcctctcca     480
gcacctgttg tttcctgact ttttaatgat tgccattcta actggtgtga gttggtatct     540
cattgtgctt ttgatttgca tttctctgat agccagtgat ggtgagcatt ttttcatgtg     600
tttttttggct gcataaatgt cttctttttga gaaatgtctg ttcatgtcct ttgcccactt     660
tttgatgggg ttgtttggtt ttttcttgta aatttgtttg agttcattgt agattctgca     720
tgttagccct ttgtcagatg agtaggttgc gaaaattttc tcccattttg taggttgcct     780
attcactctg atggtagttt cttttgctgt gcagaagctc tttagtttaa ttagatccca     840
tttgtcaatt ttggctttttg ttgccattgc ttttgatgtt ttagacgtga agtccttgcc     900
catgcc                                                                906
```


<210> 5621
<211> 2705
<212> DNA
<213> Homo sapiens

<400> 5621

```
ttttcctcca aacagattta ttgaatacag caaaattcta tatacaaagt gacctggacc      60
tgctgcttca aaacatgatc ctttcttact aatatcttga tagtcggtcc atagagcatt     120
agaaagcaat tgactcttaa ataaacagaa aagtgcctaa tgcacattaa atgaatggcc     180
taactactgg aactttagta gttctataag gtaattaaca taggtaggat ccagttccta     240
tgacaggctg ctgaagaaca gatatgagca tcaagaggcc attttgtgca ctgccaccgt     300
gatgccatcg tgtttctgga tcataatgtt cctgaaatgc aggaagaaaa tattcagtaa     360
aacgtaatca gtgggacttc actgcaagat taaagatgtt gtttgcttta ggatacaata     420
tttaaaataa tgtaattgtt tctacgtata aaagcaatat ttaaacataa caaaacattt     480
gggaaataca taaacatata gcatgtgaac acgaaatgaa tccttaatcc tactacacac     540
agacaaccac tgttaatatt tccctggttc tttgtttcgg tttttttaggc actgtcttgc     600
tatgttgccc aagctggcct caaactcctg ggctcaagca atcctgcttc agccacctca     660
gtagctggaa ctacaaaaaa aaggctttac tggtctttgt tttctttgca tgtatatgat     720
acagtcatgt gctgcataac aatgcttcag tcaacagtgg accctacata tgatggtggt     780
cccgtaagat tataatggaa ctgaaaaatt cctattgcct agtgaccttt taaccgtccc     840
agcatcacat agcacaacac actactcaca tgtttgtggt aatgctggtg taaacaaatt     900
gtgctgccag tcataaaaag tatagcacat acaattatgt acagtacgta acgcttgata     960
ataataaatg actatgctat ggtttatgta tttactatac ttttttttctt tttttttgaga    1020
cggagtcttg ctctgttgcc caggctggag ggcagtggcg tgatctcagc tcactgcaac    1080
ctctgcctcc cgggttcaag caattctcct gcctcagcct cctgagtagc taggattaca    1140
ggtgcctgcc accatgccta attttttgtat ttttagtaga dacagggttt caccatgttg    1200
gttaggctgt ctcacactcc ttacctcaag tgatctgccc gccttggcct cccaaagtgc    1260
tgggattaca agtgtgagcc accatgccgg gcctactttt tatcattatt ttagagtata    1320
ctactcctac ttattaagac aaggttaact ataaacagc ctcagacagg tcctttagga    1380
```

2557

```
ggtattccag aaggtatcat cattacagga gatgacaact ccatgcatgt tactgccctg    1440
gatgaccttc cagtgggaga agatgtggag atagaagcca gtgatattga tgatcctgac    1500
cctgtgcagg cctaggctaa tgtgtgtttc ttctttgctt ttaacaaaaa agtctaaaaa    1560
gtaaaaaagt ttaaaaaaag aattttttgta cagctgtaca actgttttaa gtgttattat    1620
aaagtcaaaa agttttattg actcactcag agcaacttcc agtgttgtaa gctccattat    1680
ggtaagtgcc ctattcagat atacctttta aaaaatttcc ctataccata cttttactgt    1740
atcttctcta cgtttagata cataaatacc actgttataa ctgcctacat tatttaggct    1800
acaaatcttt gtagtctaag agcaatacag cctaggtgtg taataggtg taccacctag    1860
gtttaagtac actctatgat gttcatacaa caaaactgcc tgacacattt ctcagaacat    1920
atccccattg ttaagcaatg catgactgta tgttttttct ttttacaagg ctgtgatagt    1980
agcagttgta tatatatact ttttttcaca tattattctg aggaccatca cttggaatat    2040
ctttagtaat tttattgctt tagaagtaat ttttggctgg gtgcagtgac tcattcctgt    2100
aatcccagca ctttgggagg ctgaggcggg caaattactg agcccagga gttcgagacc    2160
agcctgggaa acatggtgaa acctcatctc tacaaaaaaa tacaaaaatt agctgggtgt    2220
ggtagtgtac acctgtagtc tcagctacaa ctcgggaggc tgagttgggt gaatcgcttg    2280
agcccggtgg ggttgaagtc acagtgaccc atgatcacac cactgtactc cagcctggtg    2340
ccagagcaac accctgcctc aaaaagaaaa aaaaaaaag taattttat tctctgatta    2400
gttttccttt gtgctatttg ttactttctt tttgttggta aactgatagc ttctgccaat    2460
tcttattctt catttaaata gcattgtggc ctgagagcac attagcttta gggatcaact    2520
tgtctgttcc tgtgattcaa aagattaaga acttttccca aagtagtctg aataaggaat    2580
cactgatgaa cacagggccg gcccccgcca attttaccag gaatttttct gaacaaaaag    2640
gaaaggatct gctgaaatct actcacccat tatctgattc tagacacacc acaggaatat    2700
cagtg                                                                2705


<210> 5622
<211> 368
<212> DNA
<213> Homo sapiens


<400> 5622
ggcatgggca aggacttcat gtctaaaacg ccaaaagcaa tggcaacaaa agacaaaatt     60
gacaaatggg atctaattaa actaaagagc ttctgcacag caaaagagtc taccatcaga    120
gtgaacaggc aacctataca atgggagaaa aattttgcaa tctactcatc tgacaaaggg    180
ctaatatcca gaatctacag tgaactcaaa caaatttaca agaaaaaaac aaacaacccc    240
atcaaaaagt gggcaaagta tatgaacaga cacttctcaa aagaagacat ttatgcagct    300
aaaagacaca tgaaaaaatg cccatcatca ctggccatca gagaaatgca aatcaaaacc    360
acaatgag                                                             368


<210> 5623
<211> 823
<212> DNA
<213> Homo sapiens


<400> 5623
tgttttctta ctcaaaacac tgtttaacat gacacttggc tcctttcttt gcatctctga     60
gctcttgtaa gatttgagaa acaattacat tcaagggcag tatgcttaac ctactgacat    120
ttgaactaca aagcaaagat gttcagattt tcctgaagga tcaagtcttt caggccacag    180
aattttctgt cctagttttt taatacagta gtccccccat atctgcaatt ttcctttcca    240
cattcaatta cgcatggtca gctgtagtct aaaaatatta aatggaaaat tccagaaata    300
aacaattcat aagtttttaaa ttacacacta ttctgagtag catccatgat gtgaattctt    360
gctttgtgcg gcatattcat gcttaaattc tccccaccca ttagtcactt agtagccatc    420
tcagttgtca cggactgtca ctgtatctca gtgcttgttt tcaagtaacc tttatcttac    480
taatggcccc aaagcacaag tgtaatgatg ctagcaattc agatatgcca gagaagctgt    540
aaagtgcttt cttaaagcga aaggtaaaa gttattaatt taagcaaggg aataaaaatc    600
atatgctaag gttgctaaga tcgagggtga gaatgactct tcctgctgta caagatgatc    660
atccccagag cacatagccg tcagactttc caaggtcaat acaaagaaa gaatcttaaa    720
gacagctaga gaaagggtca tataactcat catgctaaca gcagacttct cagcagaaac    780
tttacaagtc agaagagatt gggggactgt ttttagcatt ctt                      823
```

2558

<210> 5624
<211> 140
<212> DNA
<213> Homo sapiens

<400> 5624
tttttcccctc tttttttttt tttttttttt tttttttgag acggagtttc gctctgtcgc   60
ccaggctgga gtgcagtggc gcgatctcga ctcactgcaa gctccgcctc ccgggttcac   120
gccattctcc tgcctcagcc   140

<210> 5625
<211> 4706
<212> DNA
<213> Homo sapiens

<400> 5625
tattattata cttttaagttt cagggtacat gtgcacaatg tgcaggtttg ttacacatgt   60
atacatgtgc catgttggtg tgctgcaccc atcaactcgt catttagcat tagatatatc   120
tcctaatgct atccctcccc actccccta ccccacaaca gtccccggtg tgtgatgttc   180
cccttcctgt gtccatgtgt tctcattgtt caattctcat ctatgagtga gaacatgtgc   240
tgtttggttt tttgtccttg caatagtttg ctgagaatga tggttccag cttcatccat   300
gtccctacaa aggacatgaa ctcatccttt tttatggctg catagtattc catggtgtat   360
atgtgccaca ttttcttaat ccagtctatc attgttggac atttcggttg gttccaagtc   420
tctgctattg tgaatagtgc cgcaataaac atacatgtgc atgtgtcttt atagcagcat   480
gatttacaat cctttgggta tatacccagt aatgggatgg ctgggtcaaa tggtatttct   540
agttctagat ccctgaggaa tcgccacacc gacttccaca atggttgaac tagtttacag   600
tcccaccaac agtgtaaaag tgttcctatt tctccacatc ctctcagcac ctgttgtttc   660
ctgacttttt aatgatctcc attctaactg ttgtgagatg gtatctcatt gtggttttga   720
tttgcatttc tctgatggcc agtgatgatg agcactttt catgtgtttt ttggctgcat   780
aaatgtcttc ttctgagaag tatctgttca tatcctttgc ccactttttg atggggttgt   840
ttgttttttt cttgtaaatt tgtttgagtt cattgtagat tctggatatt agccctttgt   900
cagatgagta ggttgcaaaa actttctccc attctgtagg ttgcctgttc actctgatgg   960
tggtttctttt tgctgtgcag aagctcttca gtttaattag atcccatttg tcaattttgt   1020
cttttgttgc cattgctttt ggtgtttag acatgaagtt cttacccatg cctatgtcct   1080
gaatggtatt gcctaggttt tcttctaggg tttttatggt tttaggtcta acatgtaagt   1140
ctttaatcca tcttgaatta atttttgtat aaggtgtaag gaagggatcc agtttcagct   1200
ttctacatat ggctagccag tttttcccagc accatttatt aaatagggaa tcctttcccc   1260
attgcttgtt tttgtcaggt ttgtcaaaga tcagatagtt gtagatatgt gacattatttt   1320
ctgagggctc tgttctgttc cattggtcta tatctctgtt ttggtaccag taccatgctg   1380
tttttggttac catagccttg tagtatagtt tgaagtcagg tagtgttatg cctccagctt   1440
tgttctttttg gcttaggatt gacttggcaa tgtgggctct tttttggttc catatgaact   1500
ttaaagtagt ttttttccaat tctgtgaaga aagtcattgg tagcttgatg ggaatggcac   1560
tgaatctttta aatgaccttg ggcagtatgg ccattttcac gatattgatt cttcctaccc   1620
atgagcatgg aatgttcttc catttgtttg tatccccttt tatttcattg agcagtggtt   1680
tgtagttctc cttgaagagg tccttcacat cccttgtaag ttggattcct aggtatttta   1740
ttctctttga agcaattgtg aatgggagtt cactcatgat ttggctctct gtttgtctgt   1800
tattggtgta taagaatgct tgtgattttt gcacattgat tttgtatcct gagactttgc   1860
tgaagttgct tatcagctta aggagatttt gggctgagat gatggggttt tctagatata   1920
caatcatgtc atctgcaaac agggacaatt tgacttcttc ttttcgtaat tgaatgccct   1980
ttatttcctt ctcctgcttg attgccctgg ccagaacttc cacactatgt tgaataggag   2040
tggtgagaga gggcatccct gtcttgtgcc agttttcaaa gggaatgctt ccagttttttg   2100
cccattcagt atgatattgg ctgtgggttt gtcatagcta gctcttatta ttttgagata   2160
catcacatca atacctaatt tattgagagt ttttagcatg aagcattgtt gaattttgtc   2220
aaaggctttt tctgcatcca ttgagataat catgtggttt ttgtctttgg ttctgtttat   2280
atgctggatt acgtttattg attttcgtat gttgaaccag ccttcgcatcc cagggaggaa   2340
gcccactaga tcatggtgga taaacttttt gatgtgctgc tgtcttttgg ttgccagtat   2400
tttattgagg attttttgcat caatgttcat caaggatatt ggtctaaaat tctcttttttt   2460
ggttgtgtct ctgccaggct ttggtatcag gatgattctg gccacataaa atgagttagg   2520
gaggattccc tctttttctta ttgattggaa tagtttcaga aggaatggta ccagctcctc   2580

```
cttgtacctc tggtagaatt cggctgtgaa tccatctgtt cctggacttt ttttggttgg    2640
taagctattg attatttcct caatttcagt gcctgttatt ggtatattca gagattcaac    2700
ttcttcctgg tttagtcttg ggaggatgta tgtgtcaagg aatttatcca tttcttctag    2760
attttgtagt ttatttgcat agaggtgttt atagtattct ctgatggtag tttgtatttc    2820
tgtgggatcg gtggtgatat cccctttatc attttttatt gcgtctattt gattcttctc    2880
tcttttcttc tttattagtc ttgctgtcta tcaattttgt tgatcttttc aaaaaaccag    2940
ctcctgaatt cattaatttt ttgaagggtt ttttgtgtct ctatttcctt cagttcttct    3000
ctgatcttag ttatttcttg ccttctgcta gcttttgaat gtgtttgctc ttgcttctct    3060
agttctttta attgtgatgt tagggtgtca attttagatc tttcctgctt tctcttttgg    3120
gcatttagtg ctataaattt ccctctacac actgctttga atgtgtccca gagattctgg    3180
tatgttgtct ttgttctcat tggtttcaaa gaacaccttt atttctgcct tcatttcgtt    3240
atgtacccag cagtcattca ggagcaggtt gttcagtttc catgtagttg agtggttttg    3300
agtgagtttc ttaatcctga gttctagttt gattgcactg tggtctgaga gacagtttgt    3360
tataatttct gttctttgac atttgctgag gagtgcttta cttccaacta tgtggtcaat    3420
tttggaatag gtgtggtgtg gtgctgaaaa gaatgtatat tctgttgatt tggggtggag    3480
agttctgtag atgtctatta gttccgcttg gtttagagct gagttcaatt cctgggtatc    3540
cttgttaact ttctgtcttg ttgatctgtc taatgttgac agtggggtgt taaagtctct    3600
gattattatt gtgtaggagt ctaagtctct ttgtagttca ctaaggactt gctttatgaa    3660
tctgggtgct cctgtattgg gtgcatatat atttaggaca gtttgctttt cttgttgaat    3720
tgatcccttt accattatgt aatggccttc tttgtctctt ttgatctttg ttggtttaaa    3780
gtctgtttta tcagagacta ggattgcaat ccctgccttt ttctgttttc catttgcttg    3840
gtagatcttc ctccatccct ttattttgag cctatgtgtg tgtctgcacg tgagatgggt    3900
ttcctgaata cagcacactg atgggtcttg actctttatc caatttgcca gtctgtgtct    3960
tttaattgga gcatttagcc tatttacatt caaagttagt attgttatat gtgaatttga    4020
tcctgtcatt attatgtcag ttggttattt tgctcattag ttgatgcagt ttcttcctag    4080
cctcgatggt cttttacaatt tggcatgttt ttgcagtggc tggtactggt tgttcctttc    4140
catgtttagt gcttcttcct tcaggagctc tttttaggaca ggcctggtgg tgacaaaatc    4200
tctcagcatt tgcttgtctg taaagtattt tatttctcct tcacttatga agcttagttt    4260
ggctggatat gaaattctgg gttgaaaatt cttttcttta agaatgttga atattgcccc    4320
ccactctctt ctggcttgta gagtttctgc caagagatca gctgttagtc tgaggtgctt    4380
cccctttgtgg gtaacccgac ctttctctct ggctgccctt aacatttttt ccttcatttc    4440
aactttggtg aatctggcaa ttatgtgtct tggagttgct cttctcgagg attatctctg    4500
tggtgttctc tgtatttcct gaatttgaat gttggcctgc cttgctagat tggggaagtt    4560
ctcctggata atatcctgca gagtgttttc caacttggtt ccattctccc cgtcactttc    4620
aggtacacca aacagacgta ggtttggtct tttcacatag tcccatattt cttggaggct    4680
ttgtttcttt ttattctttt ttctct                                       4706
```

<210> 5626
<211> 129
<212> DNA
<213> Homo sapiens

<400> 5626
```
tttttttttga gatggagtct cgctctgtcg cccaggctgg agtgcagtgg cgctatctcg     60
gctcactgca agctccgcct cctgggttca cgccattctc ctgcctcagc ctcccgagta    120
gctgggact                                                           129
```

<210> 5627
<211> 661
<212> DNA
<213> Homo sapiens

<400> 5627
```
tactcagcaa agctatttta agattagcct tgttattgca tttgtcaata attcattcct     60
ttttattgcc aagtagtatt caattgtata gacatcacat tttttaaaaat ccattcactg    120
ttgatggaca ttttgggata ttacaaataa agctgctgtg gatattcatg aacaagtctt    180
tgtgtagaca tacgctttta ttttccttgg ataagtagga gtgtagagttg aatcctgtgt    240
taggtgtatg ttgacctttt taagaacctg cctgttttcc aaagtggttg taccatttta    300
cattccccac cagtagtgta tgagagctgt cctcttcaaa ttgactggag aagctttgct    360
```

2560

```
tccatctctt cttcttggct aatagaaggt gcctcttggc tgggcgtggt agctcacgcc    420
tgtaatccca acactttggg aggcctaggc gggtggatca cctgaggtca agagttcgaa    480
accagcctgg ccaacatgac aaaaccctgt ctctactaaa aatacaaaaa ttagccgggc    540
gcagtggtgg gcgcctgtaa tcccagctac tagggaggct gaggcaggag aatcacttga    600
acctgggagg tggaggttgc agtgagccga gatcgcacca ttgcattcca gcctgggtga    660
c                                                                    661


<210> 5628
<211> 1548
<212> DNA
<213> Homo sapiens

<400> 5628
agcagctctt gcagtgggtg ggcgacttcg tgctgtacct gctggccagc ctacccaacc     60
aggtgcgcca tgctctcccc taaggccccg cccccacct gggcccccat ctcatcagga    120
ccccgcttcc ctgcccctgc ccctcaaaac cacctcagcc ccgcccctag ttggagtccc    180
gcccctactt ggagtcccgc ccctacttgg agtcccgccc ctgcttggag tcccacctca    240
gccccgcccc tggttggagt cccacccta cttggagtcc cacttcctga gtctgtctct    300
tcttaaaccc ccacttccta gccctgcccc acttcctagc cctgccccac ttcctagccc    360
tgccccacct cggagccctg ccccatctcg gagccctgcc ccacctcgga gccctccccc    420
acctcggagc cctcccccac ctcggagccc tgccccacct cggagccctg ccccacctcg    480
gagccctgcc ccacctcgga gccctccccc acctcggagc cctccccac ctcggagccc    540
tgccccacct cggagccctc ccccacctcg gagccctcct ctccatgaag cctctgctgt    600
aagaagcctt tccttggcca cacccttcct gcccattctc aaagccccgc ctcccaggcc    660
ctgctccttc tcagccccac ccctacgga aggccggttc gccttgctcc tgctgctgct    720
gcccccaccc cttaccctcc ccagctccct gcgcctgggg tgggcggcct tgaaatcaag    780
tctccatcca cacctccacc ttcagttttg cggcttgtgc gccctgacc agggctccaa    840
cctcgccccc acccccccgc cggtacactc tgtcctgccc cagctgtgat ttcttctgcc    900
ccacccaccc ggcttcatcc tgccctgggg cccgcccttc tccaccgcgc ccatcacgga    960
cggtttgaag tccctctctt cttttgtgg ggctttaggc tgccaggggc caccctggg    1020
gcctcccctt ccctggtcct ctcagctccc agtacagtca ccaggggccc gggcccgcag    1080
ctgtaggagg gggcggctgc tcctccacgt gcaggtgggg atattggcct cagccagagc    1140
ctcgtcttag tcttgtggac tctcagggat gggacgactc tgcaaatggg gctgtcctgg    1200
gccctgcagg gctctgagca gcgtccccgg catccaccca ctcggtgcca gaagcacccc    1260
agtcctgacc accacaaatg tcccagaccc tgcccattgc cccccggtcg gggttccacc    1320
gaccccaaga cacttcatcc catcgccatc tgcccccgc cgccccagcc acaccgatgc    1380
ctctttcggg cagggttccc tgctgaggcc gggccacagc tttctgcggg acggcacctc    1440
gctgggcatg cttcgggaat tgatggtggt catccgcatc tggggccttc tgaagcccag    1500
ctgcctgccc gtgtatacgg ccacctagga tacccaggac agcatgtc                1548


<210> 5629
<211> 4704
<212> DNA
<213> Homo sapiens

<400> 5629
tattattata ctttaagttt cagggtacat gtgcacaatg tgcaggtttg ttacacatgt     60
atacatgtgc catgttggtg tgctgcaccc atcaactcgt catttagcat tagatatatc    120
tcctaatgct atccctcccc actcccccta ccccacaaca gtccccggtg tgtgatgttc    180
cccttcctgt gtccatgtgt tctcattgtt caattctcat ctatgagtga gaacatgtgc    240
tgtttggttt tttgtccttg caatagtttg ctgagaatga tggtttccag cttcatccat    300
gtccctacaa aggacatgaa ctcatccttt tttatggctg catagtattc catggtgtat    360
atgtgccaca tttcttaat ccagtctatc attgttggac atttcggttg gttccaagtc    420
tctgctattg tgaatagtgc cgcaataaac atacatgtgc atgtgtcttt atagcagcat    480
gatttacaat cctttgggta tatacccagt aatgggatgg ctgggtcaaa tggtatttct    540
agttctagat ccctgaggaa tcgccacacc gacttccaca atggttgaac tagtttacag    600
tcccaccaac agtgtaaaag tgttcctatt tctccacatc ctctcagcac ctgttgtttc    660
ctgacttttt aatgatctcc attctaactg ttgtgagatg gtatctcatt gtggttttga    720
tttgcatttc tgatgatggc cagtgatgat gagcattttt tcatgtgttt tttggctgca    780
```

2561

```
taaatgtctt cttctgagaa gtatctgttc atatcctttg cccacttttt gatggggttg    840
tttgttttt tcttgtaaat ttgtttgagt tcattgtaga ttctggatat tagccctttg    900
tcagatgagt aggttgcaaa aactttctcc cattctgtag gttgcctgtt cactctgatg    960
gtggtttctt ttgctgtgca gaagctcttc agtttaatta gatcccattt gtcaattttg   1020
gcttttgttg ccattgcttt tggtgtttta gacatgaagt tcttacccat gcctatgtcc   1080
tgaatggtat tgcctaggtt ttcttctagg gtttttatgg ttttaggtct aacatgtaag   1140
tctttaatcc atcttgaatt aattttttgta taaggtgtaa ggaagggatc cagtttcagc   1200
tttctacata tggctagcag gttttcccag caccatttat taaatagggga atcctttccc   1260
cattgcttgt ttttgtcagg tttgtcaaag atcagatagt tgtagatatg tgacattatt   1320
tctgagggct ctgttctgtt ccattggtct atatctctgt tttggtacca gtaccatgct   1380
gttttggtta ccatagcctt gtagtatagt ttgaagtcag gtagtgtgat gcctccagct   1440
ttgttctttt ggcttaggat tgacttggca atgtgggctc ttttttggtt ccatatgaac   1500
tttaaagtag ttttttccaa ttctgtgaag aaagtcattg gtagcttgat gggaatggca   1560
ctgaatcttt aaatgacctt gggcagtatg gccattttca cgatattgat tcttcctacc   1620
catgagcatg gaatgttctt ccatttgttt gtatcccctt ttatttcatt gagcagtggt   1680
ttgtagttct ccttgaagag gtccttcaca tcccttgtaa gttggattcc taggtatttt   1740
attctctttg aagcaattgt gaatgggagt tcactcatga tttggctctc tgtttgtctg   1800
ttattggtgt ataagaatgc ttgtgatttt tgcacattga tttttgtatcc tgagactttg   1860
ctgaagttgc ttatcagctt aaggagattt tgggctgaga tgatggggtt ttctagatat   1920
acaatcatgt catctgcaaa cagggacaat ttgacttctt cttttcgtaa ttgaatgccc   1980
tttatttcct tctcctgctt gattgccctg gccagaactt ccacactatg ttgaatagga   2040
gtggtgagag agggcatccc tgtcttgtgc cagttttcaa agggaatgct tccagttttt   2100
gcccattcag tatgatattg gctgtgggtt tgtcatagct agctcttatt attttgagat   2160
acatcacatc aatacctaat ttattgagag ttttttagcat gaagcattgt tgaattttgt   2220
caaaggcttt ttctgcatcc attgagataa tcatgtggtt tttgtctttg gttctgttta   2280
tatgctggat tacgtttatt gattttcgta tgttgaacca gccttgcatc ccagggagga   2340
agcccactag atcatggtgg ataaactttt tgatgtgctg ctgtatttgg tttgccagta   2400
ttttattgag gatttttgca tcaatgttca tcaaggatat tggtctaaaa ttctcttttt   2460
tggttgtgtc tctgccaggc tttggtatca ggatgattct ggccacataa aatgagttag   2520
ggaggattcc ctcttttttct attgattgga atagtttcag aaggaatggt accagctcct   2580
ccttgtacct ctggtagaat tcggctgtga atccatctgt tcctggactt tttttggttg   2640
gtaagctatt gattatttcc tcaatttcag tgcctgttat tggtatattc agagattcaa   2700
cttcttcctg gtttagtctt gggaggatgt atgtgtcaag gaatttatcc atttcttcta   2760
gattttgtag tttatttgca tagaggtgtt tatagtattc tctgatggta gtttgtattt   2820
ctgtgggatc ggtggtgata tcccctttat cattttttat tgcgtctatt tgattcttct   2880
ctcttttctt ctttattagt cttgctgtct atcaattttg ttgatctttt caaaaaacca   2940
gctcctgaat tcattaattt tttgaagggt tttttgtgtc tctatttcct tcagttcttc   3000
tctgatctta gttatttctt gccttctgct agcttttgaa tgtgtttgct cttgcttctc   3060
tagttcttttt aattgtgatg ttagggtgtc aattttagat ctttcctgct ttctctttttg   3120
ggcatttagt gctataaatt tccctctaca cactgctttg aatgtgtccc agagattctg   3180
gtatgttgtc tttgttctca ttggtttcaa agaacacctt tatttctgcc ttcatttcgt   3240
tatgtaccca gcagtcattc aggagcaggt tgttcagttt ccatgtagtt gagtggtttt   3300
gagtgagttt cttaatcctg agttctagtt tgattgcact gtggtctgag agacagtttg   3360
ttataatttc tgttctttga catttgctga ggagtgcttt acttccaact atgtcaattt   3420
tggaataggt gtggtgtggt gctgaaaaga atgtatattc tgttgatttg gggtggagag   3480
ttctgtagat gtctattagt ccgcttggt ttagagctga gttcaattcc tgggtatcct   3540
tgttaacttt ctgtcttgtt gatctgtcta atgttgacag tggggtgtta aagtctctga   3600
ttattattgt gtaggagtct aagtctcttt gtagttcact aaggacttgc tttatgaatc   3660
tgggtgctcc tgtattgggt gcatatatat ttaggacagt ttgcttttct tgttgaattg   3720
atccctttac cattatgtaa tggccttctt tgtctctttt gatctttgtt ggtttaaagt   3780
ctgtttttatc agagactagg attgcaatcc ctgccttttt ctgttttcca tttgcttggt   3840
agatcttcct ccatcccttt attttgagcc tatgtgtgtg tctgcacgtg agatgggttt   3900
cctgaataca gcacactgat gggtcttgac tctttatcca atttgccagt ctgtgtcttt   3960
taattggagc atttagccta tttacattca aagttagtat tgttatatgt gaatttgatc   4020
ctgtcattat tatgtcagtt ggttattttg ctcattagtt gatgcagttt cttcctagcc   4080
tcgatggtct ttacaatttg gcatgttttt gcagtggctg gtactggttg ttcctttcca   4140
tgtttagtgc ttcttccttc aggagctctt ttaggacagg cctggtggtg acaaaatctc   4200
tcagcatttg cttgtctgta aagtatttta tttctccttc acttatgaag cttagtttgg   4260
ctgatatga aattctgggt tgaaaattct tttctttaag aatgttgaat attgcccccc   4320
actctcttct ggcttgtaga gtttctgcca agagatcagc tgttagtctg atgtgcttcc   4380
ctttgtgggt aacccgacct ttctctctgg ctgcccttaa catttttttcc ttcatttcaa   4440
```

                                    2562

```
ctttggtgaa tctggcaatt atgtgtcttg gagttgctct tctcgaggat tatctctgtg      4500
gtgttctctg tatttcctga atttgaatgt tggcctgcct tgctagattg gggaagttct      4560
cctggataat atcctgcaga gtgttttcca acttggttcc attctccccg tcactttcag      4620
gtacaccaaa cagacgtagg tttggtcttt tcacatagtc ccatatttct tggaggcttt      4680
gtttcttttt attctttttt ctct                                            4704


<210> 5630
<211> 131
<212> DNA
<213> Homo sapiens

<400> 5630
tttttttttt gagatggagt ctcgctctgt tgcccaggct ggagtgcagt ggcgcgatct        60
cggctcactg caagctccgc ctcccgggtt cacgccattc tcctgcctca gcctcccgag       120
tagctgggac t                                                            131


<210> 5631
<211> 1090
<212> DNA
<213> Homo sapiens

<400> 5631
gaatgtaatt tatttttttt aattatactt taagttttag agtacatgtg cacaacgtgc        60
aggtttgtta catatgtata catgtgccat gttggtgtgc tgcacccatt aactcgtcat       120
ttagcattag gtatatctcc taatgctatc tgtgcccccт ccccaaccg cacaacaggc       180
cccggtgtgt gatgttcccc ttcctgtgtc catgtgttct cattgttcaa ttcccaccta       240
tgagtgagaa catgtggtgt ttggtttttt gtccttgtga tagtttgctg agaatgatgg       300
tttccagctt catccatgtc cctacaaagg acatgaactc atcatttttt atggctgcat       360
agtattccat ggtgtatatg tgccacattt tcttaatcca gtctatcatt gttggacatt       420
tgggttggtt ctaagtcttt gctattgtga atagtgccac aataaacata cgtgtgcatg       480
tgtctttata gcagcatgat ttatagtcct ttgggtatat acccagtaat gggatggctg       540
ggtcaagtgg tatttctagt tctagatccc tgaggaatcg ccacactgac ttccacaatg       600
gttgaactag tttacagtcc caccaacagt gtaaaagtgt tcccatttct ccatatcctc       660
tccagcacct gttgtttcct gactttttag tgattgccat tctaactggt gtgagatggt       720
atctcattgt ggttttgatt tgcatttctc tgatggccag tgatgatgag cattttttca       780
cgtgtctttt ggctgcataa atgtcttctt ttgagaagtg tctgttcata tcctttgccc       840
actttttgat ggggttgttt gttttttttct tgtaaatttg tttgagttca ttttagattg       900
tggatattag cctttttgtca gatgagtaga ttgcaaaaat tttctcccat tctgtaggtt       960
gcctgttcac tctgatggta gtttcttttg ctgtgcagaa gctctttaga ttaattagat      1020
cccatttgtc aattttggct tctgttgccc ttgcttttgg tgttttagac atgaagtcct      1080
tgcccgtgcc                                                            1090


<210> 5632
<211> 125
<212> DNA
<213> Homo sapiens

<400> 5632
gctacttggg aggctgaggc agaagaatcg cttgaaccca ggaggcagag gttgcagcga        60
gctgagatcg caccattgca ctccagcctg ggcaacaaga gtgaaactcc atctcaaaaa       120
aaaaa                                                                  125


<210> 5633
<211> 522
<212> DNA
<213> Homo sapiens
```

2563

<400> 5633

```
gtactcaata agcttgttaa aatatttgtt gagtgaataa aataatctaa atcatttcct    60
aagtttcttt aatgatcaaa gaaattaaac cactatgaat ctggtttcag gtattaaaca   120
cagattaaat attcattttt aggatacatt tgttttaaat ttaacacatg gattcatgaa   180
taatgctata gagaatccat tatttaaaat attaatataa atatctatgc atgaggggga   240
aataattggg aaattttatc tcctctgaca aaggggaaaa aggccattta aaaatattac   300
tttttcccct tcagacagag agcagaggtg agccacacga aatctaagtt cgcatgaaag   360
agcgatgata aaaaatgcag gtgctgtgaa acatttatat ggaccaagtg taagacagta   420
tgtaggcctg aatttgaaat gacattttgg tataaaacag atctcccaaa ggcaaatttg   480
aaacttccag aaaagtctta aaatgacatc tttcaaaatg aa                       522
```

<210> 5634
<211> 184
<212> DNA
<213> Homo sapiens

<400> 5634

```
tttttttttt gaggtggagt ctcgctctgt cgcccagact ggagtgcagt ggcgcaatct    60
cggctcactg caagctccgc ctcctggatt cacgccattc tcctgcctca gcttcccgag   120
tagctgggac tacaggcgcc cgcaccacgc ccagctaatt tttttgtatt tttagtagag   180
acgg                                                                 184
```

<210> 5635
<211> 126
<212> DNA
<213> Homo sapiens

<400> 5635

```
ttaagatttc taactacatt tacttccttg acgaagcttc ggccgtgcgt agactggtca    60
gcttccgggg tgactagagc agggctgtgg tcactttcac tggcatctgg gtcctgtcgt   120
aggatc                                                               126
```

<210> 5636
<211> 319
<212> DNA
<213> Homo sapiens

<400> 5636

```
ttgtgctctt tttttttttt ttctttttttt ttttgagac ggagtctcgc tctgtcgccc    60
aggctggagt gcagtggcgc gatctcggct cactgcaagc tccgcctccc gggttcacgc   120
cattctcccg cctcagcctc ccgagtagct gggactacag gcgcccgcca ccacgcccgg   180
ctaatttttt gtattttttag tagaggcggg gtttcactgt gttagccagg atggtctcga   240
tctcctgacc tcatgatccg cccgcctctg cctcccaaag tgctgggatt acaggcgtga   300
gccaccgcgc ccggccaaa                                                 319
```

<210> 5637
<211> 316
<212> DNA
<213> Homo sapiens

<400> 5637

```
gaattctttt tttttttttt tttttttgag acggagtctc gctctgtcac ccaggctgga    60
gtgcagtggc gcgatctcgg ctcactgcaa gctccgcctg ccaggttcac gccattctcc   120
tgcctcagcc tcccgagtag ctgggactac aggcgcccgc taccacgccc ggctaatttt   180
ttgtattttt agtagagacg gggtttcacc gtgttagcca ggatggtctc gatctcctga   240
cctcgtgatc cgcccgcctc ggcctcccaa agtgctggga ttacaggcgt gagccaccgt   300
gcccggccaa gaattc                                                    316
```

<210> 5638
<211> 316
<212> DNA
<213> Homo sapiens

<400> 5638
caaatttttt tttttttttt tgagacggag tctcgctctg tcgcccaggc tggagtgcag   60
tggcgggatc tcggctcact gcaagctccg cctcccgggt tcacgccatt ctcctgcctc   120
agcctcccaa gtagctggga ctacaggcgc ccgccactac gcccggctaa ttttttgtat   180
ttttagtaga cacggggttt caccgtttta gccgggatgg tctcgatctc ctgacctcgt   240
gatccgcccg cctcggcctc ccaaagtgct gggattacag gcgtgagcca ccgcgcccgg   300
ccgaattgaa caaatt   316

<210> 5639
<211> 203
<212> DNA
<213> Homo sapiens

<400> 5639
ctcctgcctc agcctcccga gtagctggga ctacaggcgc ccgccaccac gcccggctaa   60
ttttttgtat ttttagtaga cacggggttt caccgtgtta gccaggatgg tctcgatctc   120
ctgacctctt gatccgcccg cctcagcctc ccaaagtgct gggattacag gcgtgagcca   180
ccgtgcccgg cacaaggtaa aat   203

<210> 5640
<211> 294
<212> DNA
<213> Homo sapiens

<400> 5640
acttcttttt tttttttttt tgagacggag tctcgctgtc acccaggctg gagtgcaatg   60
gcgcaatctc ggctcactgc aagctccgct cccgggttc acgccattct cctgcctcag   120
cctcccgagt agctgggact acaggcaccc gccacctcgc ccggctaatt ttttgtattt   180
ttagtagaga tggggtttca ccgtgttagc caggatggtc tcgatctcct gacctcgtga   240
tccgcccgcc tcagcctccc aaagtgctgg gattacaggc gtgagccacc gcgc   294

<210> 5641
<211> 1057
<212> DNA
<213> Homo sapiens

<400> 5641
tttatttatt tatttattta tttattttga cacggagtct cgctctgtcg cccaggccag   60
agagcagtgg cgcaatctcg actcactgca agctccgcct ccggggttca cgccattctc   120
ctgcctcagc ttccagagta gctgggacta caggcgcccg ccaccacacc cggctaattt   180
tttgtatttt tagtagagac tggggtttca cgtgttagcc aggatggtca cgatctcctg   240
atctcatgat ccgcccgcct cagcctccca aagtgctggg attacaggct tgagccaccg   300
cgccggcct gtcagatgct tttttgcatc tgttgtgatg atcatatggt ttttgccctt   360
cactttgctt gtatggttta tcacatttat agatttgttt atgttgaacc acccttgtat   420
tcctgggata aatctcactt gatcatggtg aatgcttctt ttaatgggct gttgaatttg   480
gtttgttagt attttgttga ggatttttgc atatttgttc atcagggata ttgacctgta   540
attttcttgt agtgtccttg tctcgctttg gtatcagggt aatgccgacg tcgtaaaatg   600
agtttggaag tgtatctgga agtattcgtc gtctttgatt tttgggaaga gtttgagaag   660
aattggtact agttttacct taagtgtttg gcagaattct tctggtctct tgatgttttc   720
attgccttgc tgagcataga tccaggtact tatgagcaaa attctactca gtctgacaac   780
tctgcttaga attatgaatg tgattaaatg cagtggtcac tctacctttc taaggtagtt   840

2565

```
cagctcaagt tacagcgatc cagtcctgat agagctttga aacctcaagt ctattatata      900
acgtaatgaa aaattggctt ggtgaggtgg ttcacaccta taatcccagc actttgggag      960
gctgaggtgg gtggatcact tgagttcgga gttcaagacc aggctgggca acatggcaaa     1020
accccacttc taccaaaaaa aaaaaaaaaa aaaaaaa                              1057


<210> 5642
<211> 3471
<212> DNA
<213> Homo sapiens

<400> 5642
cttttttttt tttttttttt ttttgagacg gagtctccct ctgtcgccca ggctggagtg       60
cagtggcgca atctcggttc actgcaagcc ccacctcctg ggttcacgcc attctcctgc      120
ctcagcctcc tgagtagctg ggactacagg cgcccgccac cacgcccagc taattttttg      180
tatttttagt agagacgggg tttcaccgtg ttagccagga tggtctcgat ctcctgacct      240
catgatccac ccgcctcggc ctcccaaagt gctgggatta taggcgtgag ccaccatgcc      300
cggccaagag ctaagctatt ctaagctata acgtgtatta tcaaaacaat taaggccagg      360
cacagttgct cacacctgta atcacaacac tttgggaggc tgaggcgggt ggatcatttg      420
aggtcaggag tttgagacca gcctggccaa catggtaaaa ccctgtctct actaaaaata      480
caaaaaaatt atccaggtgt ggtggtgcat gcctgcagtc ccggctactc gggaggctga      540
ggcacaagaa taagaattgc ttgagtgggg aggtggaggt tgcagtgagc caagatcatg      600
ccactgcact acaggctagg agacagagtg agaccctgtc ttaaaaaaaa agcaattagg      660
ccaagtgcag tggctcatgc ctgtaatccc agcactttgg gaggccaagg agggcagatc      720
acgaggtcaa gaaatcgaga ccagcctggc caacatggtg aaaccctgtc tctactaaaa      780
atacgaaaat tagctgggtg tggtggcgcg tgcctgtagt cccagctact cgggaggctg      840
aggcaggaga atgccttgaa cccgggaggt ggaggttgca gtgagccgag atcacgccac      900
tgcactccag cctgacgaca gagtgggaat ccatctaaaa aaagaaagaa agaaattggc      960
tggagaatcg cttggaccca ggggtggagg ttgccatgag ctgagattgt gccactgcac     1020
tccagcctag gcaacaagag caaaactccg tctcaaaaaa aaaaaaaaaa atcccagcac     1080
tttgggaggc caaggagggc agatcacgag gtcaagaaat cgagaccagc ctggccaaca     1140
tggtgaaacc ctgtctctac taaaaataca aaaaattagc tgggtgatgg tgacgggtgc     1200
ctgtagtccc agctacttgg gaggctgagg caggagaatg gcatgaacct gggaggcgga     1260
gcttgcagtg agccgagatc acaccactgc actccagcct gggcaacaga gcaagactct     1320
gtctcaaaaa aaaaaaaaaa aagaaagaa aagaaattaa acagtgtgat gtgacaaaaa     1380
gtgatagggg gttggagaca gcttttctgt tggatggtta ggaatggctt cttagaaaag     1440
atgactgaca catgggaggc tgatgtggca gatcacgagg tcaggagatc aagaccatcc     1500
tggctaacac ggtgaaaccc cgtctctact aaaaatagaa aaaattagc cgggtgtggt     1560
ggcgggcgcc tgcagtccca gctactaagg aggctgaggc aggagaatgg cgtgaacccg     1620
ggaggcagag cttgcagtga gctgagatca cgccactgca ctccagcctg acgacagag     1680
cgagactgcc atctcaaaaa aaaaaaaaga aagaaagat ggctgacaca gagggcagag     1740
ctgagagcca agagggcaga aaagagccat agaaaaccat ttccaggcct ggaagcctaa     1800
aggaatttcc cagctggatt tgcagttgct ttggattggt gactcctttt taccttttcat     1860
tgttagggga cctgcaggtt cctttgcctg ctgtgcagct acagctccat tacaccaaga     1920
caatagggat gcagcagaga gagttactgg tgcagggcac ctagtgcaga gatgggaaga     1980
ggccctcaaa tctatctccc cgagcaattc tgggagaggg tttctaaggg gactgtggag     2040
ggtaggggat tgtggagggt aaggttttgg gcaactgggt cattgattga ttggggggaag     2100
gatgtagaag ctgcgttttt gggggaatta gctccttgtg gggtccttca ggtcagctga     2160
gtcagtagtt ccatgaggac ctgaaggaat ctcttttctt ttcttcttct tcttcttttt     2220
ttttttttt tttgagatgg agtctctctc tgtcgccagg ctagaggtgc aggggtcgc     2280
aggctagagg tgcagtggca tgatcttggc tcactgcaac ctccacctcc cgggttcaag     2340
caattctcct gcctcagcct cccaagtagc tgggactaga ggtgcgtgcc accacaccca     2400
gctaattttt gtattttttag tagagacagg gtttcaccat gttggccagg gtggtctcga     2460
tctcttgact tcgtgatcgg ccccgcccc accctcggcc tcccaaagtg ctgggatcac     2520
aggagtgagc cacggtgccc agccttaatt tttgtatttt cagtggagac ggggtttcac     2580
catgttgatc aggctggagt gcaatggtgc aatcttggct cactgcaaca ttcgcctcct     2640
ggatttgaat gattctcctg cctcagcctc ccaagtaact gggattacag gaatgcgtca     2700
ccacgcccgg ctaattttgt attttttag tagagacggg gtttcaccat gttggtcagg     2760
ctgtcttgaa cttctgacct caagtgatcc acctgctttg cctcccaga gtctgaagga     2820
atatctcaaa gggaacactt aatgttgtgt aatgtccagg ttgtgatcca tagagcagtt     2880
aaaggtaaag gtaactataa tttttttttt tttttttag acagagtctc cctctctgtc     2940


                                  2566
```

```
acccaggctg gagtgcagtt tcacgatctc ggcgcactgc aacctccgcc tccctggttc    3000
aaccaattct cctgcctcag cctctcaagt gtgtgctgcc atgccaggct aatttttttt    3060
tttagacgga gtcttgctct gtcacccagg ctggagtgca gtggcacaat ctcggctcac    3120
tgcaacctcc ggctcctggg ctcaaacaat gtgttttttc ccctagtact ttggtgtttg    3180
attatctttt tttttttttt tttttttttt ttgagataga gtctcgctct gtcacccagg    3240
ctggagtgca gtggtgcaat cttagctcac tgcaagctct gcctcctggg gttcatccca    3300
ttctcctgcc tcagcctccc aagtagctgg gactacaggc acccaccacc acgcccggct    3360
aattttttgt attttttagta gagacggggt ttcaccatgt tagccaggat ggtctcgatc    3420
tcctgacctc atgatctgcc cgcctcagcc tcccaaagtg ctgggattac a             3471


<210> 5643
<211> 308
<212> DNA
<213> Homo sapiens


<400> 5643
gtttattcaa cttttttttt ttttgagac ggagtctcac tctttcgccc aagctggact      60
gcagtggcgc tatcccggct cactgcaagc tccgcctctt gggttcatgc cattctcctg     120
cctcagcctc ccgagtagct gggattacag gcgcccacca ccacgcccgg ctaatttttt     180
gtattttttag tagagacggg gtttcaccgt gttagccagg atggtctcga tctcctgacc     240
tcgtgatccg cccgcctcgg cctcccaaag tgctgggatt acaggcgtga gccaccgcgc     300
ccggcctg                                                              308


<210> 5644
<211> 322
<212> DNA
<213> Homo sapiens


<400> 5644
gaattttttt tttttttttt tttttttttt tttttttttt gagacggagt ctcgctctgt      60
cgcccaggct ggagtgcagt ggcgcgatct cggctcactg aaagctccgc ctcccgggtt     120
cacgccattc tcctgcctca gcctcccgag tagctgggac tacaggcgcc cgctaccacg     180
cccggctaat tttttgtatt tttagtagag acggggtttc accgtgttag ccaggatggt     240
ctcgatctcc tgacctcgtg atccgcccgc ctcggcctcc caaagtgctg ggattacagg     300
cgtcagccac cgcgcccggc cg                                               322


<210> 5645
<211> 307
<212> DNA
<213> Homo sapiens


<400> 5645
gaaattttttc ttttttattt tcttttttgag acggagtctc gctctgtcgc ccaggctgga     60
gttcagtggc gcgatctcgg ctcactgcaa gctccgcctc caggttcac gccattctcc      120
tgcctcagcc tcccgagtag ctgggactac aggcgcccgc caccacgcct ggctaatttt     180
ttgtattttt agtagagatg gggtttcacc gtgttagcca ggatggtctc gatctcctga     240
cctcatgatc cgcccgcctc ggcctcccaa agtgctggga ttacaggcgt gagccaccgc     300
gcccggc                                                               307


<210> 5646
<211> 214
<212> DNA
<213> Homo sapiens


<400> 5646
acagacacct catacaggag agctctggct ggcatctgct gggtgcccct ctgggacgaa      60
gcttccagag gaaggagcag gcagcaatct ttgctgttct gcagcctctg ctggtgatac     120
```

2567

ccaggcaaac aggggtctgga gtggaccccc agcaaactcc agcagacctg cagaagaggg   180
gcctgactgt tagaaggaaa actaacaaac agaa   214

<210> 5647
<211> 1698
<212> DNA
<213> Homo sapiens

<400> 5647
ggaagaaaac aatgctggtc ccttcatcta aattctgagt attattgaac acttagtacc   60
caactctcaa gttgttttga agattaaatc acataatgtg atgttcccag cacagtgctc   120
tgtaacacac tcctgagcac atagtacctg cttaataagc attgcataag tatatgtgta   180
catgttgttt ttcagtgcag acttactcag acattgttgc cttctcctgt ctctgtaaac   240
tttaaagagc tagcaaagaa tgtgtttttt caggatagag attgattgtt tatttgatca   300
gaagtatttg tgttgtgatg aatgatgagt gtgagagtct gttctatgcc tgctttttct   360
agctaaatgc tactaatgat gggtctgtgg aagctacatc agcattgaca ggagatgtgt   420
ttaaaatgca ctttcatgga tgctttttaaa acctgcagaa tcacattaca tagtgtgggg   480
ccaggggttac caaatgattt atatgcacat tgaagtttga gaggcaatgc ttagctaagt   540
ggttcttggc ccaggcttct aattaagatt ccatggccag gttgcagaaa tcttttcact   600
tgtgcccttc ccgcaggctc tgtatattgt tctgggtgga agcatccttg ttgatataat   660
taagtgcctc atgtgactcc aggttgaggc cagggtcaaa cacgaggaat tcaaaataca   720
ttcatgagag ttgagttcaa actttattcc aaagggaggt cacagggtct actatggttg   780
gatttggtag gtacaagtta atgtggtcca tatcccccatt gctgtagcag aaattgtggc   840
gtctgtggca ggaaaagaga aagataaatt ttgatctttg tggagcagct cactgtcctt   900
gaatctcacc tgttataaag aacataaatg ggtggacatg ttctgcatgc ctggatcttt   960
ctacctgtgt ttgtggtggt agcaggtgaa gagattgtgc tgattccttt aaaggcatat   1020
tccaaagatg caggtgtgac ttgtccagag aatatcacct gagaagaaat gctagagaag   1080
gatgatgaag agaaaaatgg cttttctca ggtgactgtg tctcagatta ggagcagtgt   1140
tcactctgcc tcctggaatg ccatatgttt agaacttaca aacctgtact tcttgacttt   1200
atgctgtttc tccctataag tttgtttaaa cattttttct tctcatgata gtcaagcaac   1260
tctgaaatat attattttct atatactaga gtcttctcga cattctcttc atcttggctt   1320
cttctctgcc atgcggaatt ctcatcatta attatgactc gtaatattaa aaatattccc   1380
tttggctggg cgcggtggct catgcctatt atcccagcac tttgagaggc cgatgtgggt   1440
ggatgacctg aggtcaggag ttcaagacca gcctggccaa catggtgaaa ccctgtcact   1500
actaaaaata caaaaaatag ctgggcatgg tggcgggtgc ctgtaatccc agctacttgg   1560
gaggctgagg caagagaatc acttgaaccc aggaggtgga ggttctggag gttgcagtga   1620
gcctacatcg tgccactgca ctccagcctg ggcaacagag ggagactcca tctccaaaga   1680
aaaaaaaaaa aagaaaaa   1698

<210> 5648
<211> 1697
<212> DNA
<213> Homo sapiens

<400> 5648
ggaagaaaac aatgctggcc ccttcatcta aattctgaga attattgaac tcttaggacc   60
caactctcaa gttgttatga agattaaatc acataatgtg atgttcccag cacagtgctc   120
tgtaacacac tcctgagcac atagtacctg cttaataagc attgcataag tatatgtgta   180
catgttgttt ttcagtgcag acttactcag acgttgttgc cttctcctgt ctctgaagtt   240
aaagagctag caaagaatgt ggttttttcag gatagagatt gattgtttac ttgatcagaa   300
gtatttgtgt tgtgatgatt gatgagagta gagtctgtt ccatgcctgc tttctctagc   360
taaatgctac taatgatggg tctggggaag ctacatcagc attgacagga gatgtgttta   420
aaatgcactt tcatagatgc tttttaaaacc tgcagaatca cattacatag tgtggggcca   480
gggttaccaa atgatttata tgcacattga agtttgagag gcaatgttta gctaagtggt   540
tcttggccca ggcttctaat taagattcca tggccaggtt gcagaaatct tttcacttgt   600
gcccttccca caggctctgt atattgttct gggtggaagc atccttgttg atataattaa   660
gtgcctcatg tgactccagg ttgaggccag ggtcaaacat gaggatttca aaatacattc   720
atgagagttg agttcaaact ttattccaaa gggaggtcac agggcctgct atggttggat   780
ttggtaggga caagttagtg tggcccgtat ccccattgct gtagcagaaa ttgtggcatc   840

                                   2568

```
tgtggcagga aaagagaaag ataaattttg atctttgtgg aggagctcac tgtccttgaa    900
tctcacctgt tataaagaac ataaatgggt ggacattttc tgcctgcctg gatctttcta    960
cctgtgtttg tggtggtagc aggtgaagag attgtgctga tttctttaaa ggcatattcc   1020
caagatgcag gtgtgacttg tccagagaat atcacctgag aagaaatcct agagaaggat   1080
gatgaagaga aaaatggctt tttctcaggt gactgtgtct cagatcagga gcagtgttca   1140
ctctgcctcc tggaatgcca tatgtttaga acttacaaac ctgtacttct tgactttatg   1200
ctatttctcc ctataagttt gtttaaacac ttttcttct catgatagtc aagaaactct    1260
gaaaaaatat tattttctat acactagagc cttcttgaca ttctcttcat cttggcttct   1320
tctctgccat gcagaattct caccattaat ttatgactca taatattaaa attattccct   1380
ttggctgggc gcagtggctc atgcctatta tcccagcact ttgagaggcc gatatgtgtg   1440
gatggcctga ggtcaggagt tcgagaccag cctggccaac atggtgaaac cctgtcacta   1500
ctaaaaatac aaaaaatagc tgggcatggt ggcgggtgcc tgtaatccca gctacttggg   1560
aggctgaggc aagagaatca cttgaaccca ggaggtggag gttctggagg ctgcagtgag   1620
cctacattgt gccactgcac tccagcctgg gcaacagaga gagactccat ctccaaagaa   1680
aaaaaaaaaa aagaaaa                                                   1697
```

<210> 5649
<211> 1718
<212> DNA
<213> Homo sapiens

<400> 5649
```
gaagaaaaca atgctggccc cttcatctaa attctgagaa ttattgaaca cttagtaccc     60
aactctcaag ttgttacgaa gattaaatca cataatgtga tgttcccagc agagtgctct    120
gtaacagact cctgagcaca tagtacctgt ttaataagca ttgcataagt atatgtgtgc    180
atgttgtttt tcaatgcaga cacgcagaca ttgctgcctt ctcctgtctc tgtaaacttt    240
aaagagctag caaagaatgt ggtctttcag gatagagatt gattgtttat ttgatgagaa    300
gtatttgtgt tgtgataagt gatgagtgta agagtctgtt ccatgcctgc tttttctagc    360
taaatgctac taatgatggg tctggggaag cttcatcggc attgacagga gatgtgttta    420
aaatgcactt tcatggaccc tcttaaaacc tgcagaatca cattacatag tgtggggcca    480
gggttaccaa atgatttata tgcacattga agcttgagag gcaatactta gctaagtggt    540
tcttggccca ggcttctaat taagattcca tggccaggtt gcagaaatat tttcacttgt    600
gcccttaccg caggctctgt atattgttct gggtggaagc atccttgttg atataattaa    660
gtgcctcacg tgactccagg ttgaggccag ggccaaatat gaggaattca aaatacattc    720
atgagagttg agttcaaact ttattccaaa gggaggtcac agggcctgct atggttggat    780
ttggtaggga caagttagtg tggcccatat tcccattgct gtagcagaaa ttgcagtgtc    840
tgtggcaggg gagggcacct gagggcagga aaagagaaag ataaattttg atcttcgtgg    900
aggagttcac tgtccttgaa tctcacctgt tataaacaac ataaatgggt ggacattttc    960
tgcatgcctg gatctttctg cctgtgtttg tggtggtagc aggtgaaggg attgtgctga   1020
ttcctttaaa ggcatattcc caagatgcag gtgtgacttg tccagagaat atcacctgag   1080
aagaaatcct agaggaggat gatgaagaga aaaatggctc tttctcaggt gactgtgtct   1140
cagatcaggc gctgtgttca ctttgcctcc tggaatgccg tatgtttaga acttacaaac   1200
ctgtacttct tgactttatg ctgtttctcc ctatatgttt atttaaacat tttttcttct   1260
catgatagtc aaggaactct gaaaaaatat tttttttcta tatactagag ccttctcgac   1320
attctcttca tcttggcttc ttctccgcca tgaagaattc tcatcattaa tttacgactc   1380
gtaatattaa aaatattccc ttttgctggg cacggtggtt catgcctatt atcccagcac   1440
tttgggagac cgatgtgggt ggatgacctg aggtcaggag ttcgagacca gcctggccaa   1500
catggtgaaa ccctgtcact actaaaaata caaaaaacag ctgggtgtag tggcaggtgc   1560
ctgtaatccc agctactcgg gaggctgggg caagagaatc acttgaaccc aggaggtgga   1620
ggttgcagag gttgcagtga gccgacatcg tgccactgca ctccagcctg gcaacagag   1680
agagactcca tctccaaagg aaaaaaaaaa aaaagaa                            1718
```

<210> 5650
<211> 1698
<212> DNA
<213> Homo sapiens

<400> 5650
```
ggaagaaaac aatgctggtc ccttcatcta aattctgagt attattgaac acttagtacc     60
```

2569

```
caactctcaa gttgtttttga agattaaaatc acataatgtg atgttcccag cacagtgctc   120
tgtaacacac tcctgagcac atagtacctg cttaataagc attgcataag tatatgtgta   180
catgttgttt ttcagtgcag acttactcag acattgttgc cttctcctgt ctctgtaaac   240
tttaaagagc tagcaaagaa tgtgttttttt caggatagag attgattgtt tatttgatca   300
gaagtatttg tgttgtgatg aatgatgagt gtgagagtct gttctatgcc tgcttttttct   360
agctaaatgc tactaatgat gggtctgtgg aagctacatc agcattgaca ggagatgtgt   420
ttaaaatgca ctttcatgga tgcttttaaa acctgcagaa tcacattaca tagtgtggg   480
ccagggttac caaatgattt atatgcacat tgaagtttga gaggcaatgc ttagctaagt   540
ggttcttggc ccaggcttct aattaagatt ccatggccag gttgcagaaa tctttttcact   600
tgtgcccttc ccgcaggctc tgtatattgt tctgggtgga agcatccttg ttgatataat   660
taagtgcctc atgtgactcc aggttgaggc cagggtcaaa cacgaggaat tcaaaataca   720
ttcatgagag ttgagttcaa actttattcc aaagggaggt cacagggtct actatggttg   780
gatttggtag gtacaagtta atgtggccca tatccccatt gctgtagcag aaattgtggc   840
gtctgtggca ggaaaagaga aagataaatt ttgatctttg tggagcagct cactgtcctt   900
gaatctcacc tgttataaag aacataaatg ggtggacatg ttctgcatgc ctggatcttt   960
ctacctgtgt ttgtggtggt agcaggtgaa gagattgtgc tgattccttt aaaggcatat  1020
tccaaagatg caggtgtgac ttgtccagag aatatcacct gagaagaaat gctagagaag  1080
gatgatgaag agaaaaatgg ctttttctca ggtgactgtg tctcagatta ggagcagtgt  1140
tcactctgcc tcctggaatg ccatatgttt agaacttaca aacctgtact tcttgacttt  1200
atgctgtttc tccctataag tttgtttaaa catttttttct tctcatgata gtcaagcaac  1260
tctgaaatat attattttct atatactaga gtcttctcga cattctcttc atcttggctt  1320
cttctctgcc atgcggaatt ctcatcatta attatgactc gtaatattaa aaatattccc  1380
tttggctggg cgcggtggct catgcctatt atcccagcac tttgagaggc cgatgtgggt  1440
ggatgacctg aggtcaggag ttcaagacca gcctggccaa catggtgaaa ccctgtcact  1500
actaaaaata caaaaaatag ctgggcatgg tggcgggtgc ctgtaatccc agctacttgg  1560
gaggctgagg caagagaatc acttgaaccc aggaggtgga ggttctggag gttgcagtga  1620
gcctacatcg tgccactgca ctccagcctg ggcaacagag ggagactcca tctccaaaga  1680
aaaaaaaaaa aagaaaaa                                                 1698
```

<210> 5651
<211> 499
<212> DNA
<213> Homo sapiens

<400> 5651
```
ttttctgaga ctcattcagg tctggtccca ccctggagtc tctcctcaca gaactcatta    60
gaggagacca gagatttggg aggtggctcc tgctgcctct ccagagctta tgctcacaat   120
attctgaaac ccaaaagcag ataaattaga gcaataaact atatattttg aggtcttaac   180
ttctttctttt ctaattaaaa ccagtgcttg tagagacatt ccatcccagt agttactcca   240
caagtcacaa gaaagtaaat agaaacacac taaaaaatcc ctctaaacta cacttaaccc   300
tttcctttct gtatccctcc catctgtcta tatttatctc ttatgccata cattttttta   360
aaaaaatcag tgagaggccg ggctctgtgg ctcatgcctg taatactagc aatttgggag   420
gtcgaggtgc gtggatcact tgagatcggg agttcaagac cagcctgacc aatatggaga   480
aacccccatct ctactaaaa                                               499
```

<210> 5652
<211> 399
<212> DNA
<213> Homo sapiens

<400> 5652
```
gtctttgcat atgtctttct ttaaaaagtg aagtctctca tctttgttta ctggtcataa    60
aaacccaggc tctgtcactt aatgaatgtt tgacaaaata tttatcttgg gccagaaaga   120
ttggtgtcac ttgtgagctt gttagaaatt cagaaactca ggttttacct caggtttctt   180
gaaacaaaat ctgcataaaa agatctccag tttattgttg tacacattaa aatttgagag   240
gtactttata actaagcctg acttttttaat ctgagaaata tgcagaactt atactgtatg   300
attaaatgga gcactcaaaa atgtacatgt ctatgttcct gttgttaatt ttgtactttta   360
tcattcaaaa aatatcatca atacactaca ctggtattg                          399
```

<210> 5653
<211> 399
<212> DNA
<213> Homo sapiens

<400> 5653

```
gtctttgcat atgtctttct tttaaaagtg aagtctctca tctttgttta ctggtcataa      60
aaacccaggc tctgtcactt aatgaatgtt tggcaaaatg tttatcttgg gccagaaaga     120
ttggtgccac ttgtgagctt gttagaaatt cagaaactca ggttttacct caggtttctt     180
gaaacaaaat ctgcataaaa tgatctccag tttatggttg tacacattaa aatttgagag     240
gtactttata actaagcctg actttttaat ctgagaaata tgtagaactt atactgtatg     300
attaaatgga gcactcaaaa atgtacatgt ctatgttcct gttgttaatt ttgtacttta     360
tcattcaaaa aatatcatca atacactaca ctggtattg                           399
```


<210> 5654
<211> 498
<212> DNA
<213> Homo sapiens

<400> 5654

```
cttttctgag gctcattcac gtctggcccc accctggagt ttctcctcac agaactcatt      60
ggaggagacc agagatttgg gaggtggctc ctgctgcctc tccagagctt atgctcacaa     120
tattctgaaa cccaaaagca gataaaattag agcaataaac tatatatttt gaggtcttaa     180
cttctttctt tttaattaaa accagtgctt gtagagacat tccatcccag tagttactcc     240
acagtcacaa aaaagtaaat agaaacacaa taaaaaatcc ctttaaacta cccttaaccc     300
tttcctttct gtatccctcc caactcttta tatttatctc ttatgctata cattttaaaa     360
aaaaatcagt gagaggccgg gctctgtggc tcatgcttgt aatactagca ctttgggagg     420
ccaaggtgcg cggatcactt tagcttggga gttcgagacc agcctgacca acatggagaa     480
accctgtctc tactaaaa                                                   498
```


<210> 5655
<211> 1774
<212> DNA
<213> Homo sapiens

<400> 5655

```
atcttatttt attttattat tattatactt taagttttag ggtacatgtg cacaatgtgc      60
aggttagtta catatgtata catgtgccat gctggtgtgc tgcacccatt aactcgtcat     120
ttagcattag gtatatctcc taatgctatc cctcccccct cccctaccc cgcaacagtc      180
cccagagtgt gatgttcccc ttcttgtgtc catgtgttct cattgttcaa ttcccaccta     240
tgagtgagaa catatggtgt ttggtttttt gtccttgtga tagtttactg agaatgatga     300
tttccaattt catccatgtc cctacaaagg acatgaactc atcctttttt atggctgcat     360
agtattccat ggtgtatatg tgccacattt tcttaatcca gtctatcatt gttggacatt     420
tgggttggtt ccaagtgttt gctattgtga atagtgccac aataaacata cgtgtgcatg     480
tgtctttata gcagcatgat ttataatcct ttgggtatat acccagtaat gggatggctg     540
ggtcaaatgg tatttctagt tctagatccc tgaggaatcg ccacactgac ttccacaatg     600
gttgaactag tttacagttc caccaacagt gtaaaagtgt tcctatttct ccacatcctc     660
tccagcacct gttgtttcct gactttttaa tgattgccat tctaactggt gtgagatggt     720
atctcattgt ggttttgatt tgcatttctc tgatggccag tgatggtgag catttttca     780
tgtgttttt ggctgcataa atgtcttctt ttgagaagtg tctgtttatg tccttcgccc     840
acttttgat ggtgttgttt gtttttttct tgtaaatttg tttgagttca ttgtaaattc     900
tggatattag ccctttgtca gatgagtagg ttgcgaaaat tttctcccat tttgtaggtt     960
gcctgttcac tctgatggta ttttcttttg atgtgcagaa gctcttgagt ttaattagat    1020
cccatttgtc aattttggct tttgttgcca ttgcttttgg tgttttagac aggaagtcct    1080
tgcccatgcc tatgtcctga atgataatgc ctaggttttc ttctagggtt tttatggttt    1140
tatgtctaac atttaagtct ttaatccatc ttgaattaat ttttgtagaa gatgtaaggg    1200
agggatccag tttcagcttt ctacatatgg ctagccagtt ttcccagcac catttattaa    1260
atagggaatc ctttccccat tgcttgtttt tctcaggttt gtcaaagatc agatagttgt    1320
```

```
agatatgcgg tgttatttct gagggctctg ttccgttcca ttgatctata tctctgtttt      1380
ggtaccaata ccatgctgtt ttggttactg tagccttgta gtgtaatttg aagtcaggta      1440
gcgtgatgcc tccagctttg ttcttttggc ttatgattga cttggtgatg caggctgttt      1500
tttggttcca tatgaacttt aaagtagttt ttttccaatt ctgtgaagaa agtctttggt      1560
agcttgatgg agatggcatt gaatctataa attaccttgg gcagtatgac cattttcacg      1620
atactgattc ttcctaccca tgagcatgga atgttcttcc atttgtttgt atcctctttt      1680
atttcattga gcagtggttt gtagttctcc ttgaagaggt ccttcacatc ccttgtaagt      1740
tggattccta ggtattttat tctctttgaa gcaa                                  1774
```

<210> 5656
<211> 100
<212> DNA
<213> Homo sapiens

<400> 5656
```
aggctgaggc aggagaatcg cttgaacccg ggaggtggag gttgtggtga gctgagatcg        60
tgccattgca cttccagcct gggcaacaag agcgaaactc                             100
```

<210> 5657
<211> 399
<212> DNA
<213> Homo sapiens

<400> 5657
```
gtctttgcat atgtctttct ttaaaaagtg aagtctctca tctttgttta ctggtcataa        60
aaacccaggc tctgtcactt aatgaatgtt tgacaaaata tttatcttgg gccagaaaga       120
ttggtgtcac ttgtgagctt gttagaaatt cagaaactca ggttttacct caggtttctt       180
gaaacaaaat ctgcataaaa agatctccag tttattgttg tacacattaa aatttgagag       240
gtactttata actaagcctg acttttttaat ctgagaaata tgcagaactt atactgtatg       300
attaaatgga gcactcaaaa atgtacatgt ctatgttcct gttgttaatt ttgtacttta       360
tcattcaaaa aatatcatca atacactaca ctggtattg                             399
```

<210> 5658
<211> 499
<212> DNA
<213> Homo sapiens

<400> 5658
```
ttttctgaga ctcattcagg tctggtccca ccctggagtc tctcctcaca gaactcatta        60
gaggagacca gagatttggg aggtggctcc tgctgcctct ccagagctta tgctcacaat       120
attctgaaac ccaaaagcag ataaattaga gcaataaact atatattttg aggtcttaac       180
ttctttcttt ctaattaaaa ccagtgcttg tagagacatt ccatcccagt agttactcca       240
caagtcacaa gaaagtaaat agaaacacac taaaaaatcc ctctaaacta cacttaaccc       300
tttcctttct gtatccctcc catctgtcta tatttatctc ttatgccata cattttttta       360
aaaaaatcag tgagaggccg ggctctgtgg ctcatgcctg taatactagc aatttgggag       420
gtcgaggtgc gtggatcact tgagatcggg agttcaagac cagcctgacc aatatggaga       480
aaccccatct ctactaaaa                                                    499
```

<210> 5659
<211> 1134
<212> DNA
<213> Homo sapiens

<400> 5659
```
aaggcaatag gtcggggaag gtgatgaatg ttctgtgggg catgtcaaat tgggtggaac        60
ctctggggcc ttctgtggga gatgcccagg gagcacagat ttaggagatg ggagcaacta       120
gtgtgatggt ggtgagggct ggttgaaacc ctggggagta tgtggagctc atctgtgttt       180
```

2572

```
ccacagagct tatctcccag gagatagcca tcgggagtgc cttgcctggc atgttcccct      240
gctgaggtct gttacccagg agcctgcaga cacaaagagc aggctggtaa tgctgagaag      300
cgaacattca gtacctgtca ccagaaccca gcatgggtgt tcaacactat ctggtgactc      360
tgtgagaaga ccctatgctc aggggatgaa gtgtgttgct tgtgcaagag ggatggagag      420
agagtgtttt ccaagtatat gtgtgtgtgc atgtgtgtgt acccaggtgg aaccctcctg      480
catgctcaca tatgccttta tgaatactgg aatctctaaa cctaccatca tgcatctcgt      540
cttagcttcc tacctctctc tttctacccc tgcaacagcc atgttattgc cagtaacaca      600
tgagaagagt gagggagacc tgtctgtaga caagctcagt gtgctgctaa ggaggcaggc      660
agcagttctg tcctcatgcg ttcccattgt gccctgtcct gggatggcaa atgcaaggcc      720
agacaggctc tgggctctct ggtctgacca ctaatagcat cttctcctcc cgctaggctg      780
accagcctcc aaggcaggac tctgacacca gggttataaa tgcatctgtc tgggcacatt      840
atctaaattg ttatgtatca ccctgggtaa tggcaaaagt aaaaaccgct gttagctcag      900
tgaataaatc cttggtgctg atcaatcatt gcacgacata gactctttta ataggcacaa      960
tttacacaga ggcttggcag actgcttcgt cttctaattg ccgatggaaa atggatgccg     1020
atctctgctg tgccgtaaaa atgtaaacta taaatgactt aaaaacttgt gtgctccctt     1080
ctccacccag cactcatttt aacctttat ttagaaacaa aacaaagaaa aaaa            1134


<210> 5660
<211> 2008
<212> DNA
<213> Homo sapiens

<400> 5660
tcaatgcgcc cgccgtgtcc atggagagag gctgaggcgg ccgacctccg gcccgaggca       60
ccggggcatc gggacggcga agatgtcggc ttccttagtc cgggcaactg tccgggctgt      120
gagcaagagg aagctgcagc ccacccgggc agccctcacc ctgacacctt cagcagtaaa      180
caagataaaa caacttctta aagataagcc tgagcatgta ggtgtaaaag ttggtgtccg      240
aaccaggggc tgtaatggcc tttcttatac tctagaatat acaaagacaa aaggagattc      300
tgaagaagaa gttattcaag atggagtcag agtgctcatc gaaaagaaag cacagctaac      360
actttgagga acagaaatgt gctatgttga agacaaatta tccagtgagt ttgtgttcag      420
taacccaaac atcaaaggga cttgtggctg tggagaaagc tttaatattt gaaatctcag      480
gactcttctg gccgtaggtt ccaggaaagc tggtggaagc tttggggttc aatgcagaaa      540
tcatgtgact gtcacgtgct ggaaaataaa gtgatacatc ttgaaaatga agccagtgta      600
acggattcta gaagaaatga tatttatatt ctctataggg gacagaaaat gagaagccat      660
cactctcttt ggatcatttta ggtctcttgc atcctttatt ttagaaccag tttcattaaa      720
gttgccttcc tgggcacttg tttatccatt tcctcaactg tgtgcactcc ttagatcgct      780
attgaatggc ttgaacatcc ctcagcattt ctcccaacca gatcggcgac gcctaaaatc      840
caagacagga catcctgact gctggtagta atgtggcggt gcattgtttt tccacccaaa      900
cttaacatag cctttttata cattttatg aaaaatttca ttttcagctg cctcactgca      960
tacccttaa taataccagg caaagatttt cttcaactat agtacagatt agttctgagt     1020
gatggtatca aaaggtgaga aagacgtcat ccacctttt tttaatccat ttcttttgcc     1080
acccctatatg tctgttcaga gatgggatct caagctgact ttgattcttt tagttgagga     1140
gtctcttaaa gccatctagc ccacctccct caattccta tgtgaggaag caaaacccca     1200
gggaagccaa agggctcctc tctaccctga ctccacaggc cggggggagag tagggactct     1260
acccccctct ccccttcctt gtaggtgaca catgttctgc cctctgaggc agtcagtgaa     1320
ggcaaatggt ctgacttctt tatgtggtca acattttgat agaatttctt tataatttga     1380
tagagattat attattttta ttttattttg agtgggaaga attttaaaac ctttttatatg     1440
tgaattacca tcttgtttct ttcacctttg aaacaatggt ttgtagcaga gacgacattg     1500
tagcaaccca gatatgcttt tggaatgtgg tcctcactgt acaggagaat gtggggatct     1560
tttgttaaaa ttcccagtgt gcatacactt tctggttcct tggtccagtt gctaaagttc     1620
ttagtatttt agcctaacat atttatcacc aacttttcct taaaagtgtt ccttttgtca     1680
cttagttact gattttcctg ggtttgacat aataagtatt ctatgagatg atatatatgc     1740
tttttctgaa agctaattct catgaattca agtagctgag ttcctttatg tttcgtttat     1800
tcactaaagt agctggcaca aaacacacca aaacctagag tggtagtttt atgtaaatgc     1860
tcatgagttt gtatcaataa tataattgtt gatccactta taattcgtgc agtactgtat     1920
gtatgtagag attgagttgt caattaaaaa aaatgtggcc tctttgtgat cacacacaaa     1980
aaaaagcccc tatctccaaa tacagtca                                       2008


<210> 5661
```

2573

<400> 5661

```
ccgggcgcgg tggctcacgc ctgtaatccc agcactttgg gaggcggagg cgggcggatc     60
acgaggtcaa gagattgaga ccatcctggc caacatggtg aaaccccgtc tctactaaaa    120
atacaaaaat tagccaggtg tggtggcagg cacctgtagt cccagctacc tgggaggcag    180
aggcaggaga attgcttgaa cccgggaggc ggaggttgca gtgagccaag atcgcgccac    240
tgcactccag cctgggcaac aagagtgaaa ctccatctca aagaaaaaaa aaaaa         295
```

<400> 5662

```
atataaattc cttttcttta ttttcaaatt tgacattatc atccttgcct cttaaaaaga     60
tagattttaa ttgttttcat acttcataga aatcaaagtc tgtgtttgct acaaattgaa    120
tgctcacgtt acctgaaata ttactttgga ctgcaggaca ggacagtatt tattcctaag    180
tagattgact ataatctcat gataagtatg tatatgtgca tgggaaaaac acattcaata    240
atagtctttg tgtttaaaac tatcatggta tacattttct tatgtggtgc ttgaggagtt    300
tcattctaca gattacaagg tgtaggtttg caccccaaat tctcagggta tgctatttca    360
cccaaatact tgaaagaaaa aggtgccctg tattttatca gtactgttga gggggaaatt    420
ttttgtgtaa gtttgtttga taaaactgct tataaaaatc aaattcacaa aatatgttag    480
gctttcacat aatttctaag gagatatatg tagaaataag atatatatta tcaagagact    540
gcttatatat tcttaactag cttctgggtc ctaagtagac ctcacaggtg cataaaatca    600
ttaataaagc atgtagcact tgctaattgg tgccttaagc ttgaatctaa tcagaattgc    660
agactcgggt cctctgggaa aaaaacatgt ccgtctgtgg cacgtgtgag tactaggccc    720
aggggaagag tctgaaaatt gaattctttt gtgtgtcctg tgtctcagaa gagaactgaa    780
tgttcagagc agcgtttgta agctattaac attcagtatt tcgtgttgca actagaacac    840
attattagat ttattcctgt ttaattcata atggtgcaga ataaaacaca cacatctgat    900
ttgatttctt tttctttttt taagtttcat aattgctttt tatggctagt gttaatggca    960
aaaagtcctt tccagggctc cctgaataat ctaccatacc tgtatccata gcaggtgatg   1020
cttttttttta tccccacttt gaagacgtgt gtttctgtat ttacacataa atcatactat   1080
tgtatattaa agacagcagt ggttgaaaag aatgtgaaca ctgtagaagt tatgttggaa   1140
aaaaggagag taaattgtgt gattaatggg gaaggatatt ggataatgtt ataccccgga   1200
ctatgaaaaa agctggtggt aaatgggaag aatgtgaaat tttaaactgc tctcaacgta   1260
ggaatcttgg tggaaaagtt cctacctgag gtctgatatg attcaattat agaatgcaat   1320
gagcttggcc aaggggactt tgaatccagc caaggaaact ttgaatctcg acagctctga   1380
gaatcacatt ttcagtgcat tgaatatgga gtaaactatt tagacaagga ttctgtgaga   1440
ctaggctact tacctttaat tgccagcatt tgtaaatgat tgtgcaatct tgtgtaatgg   1500
tcttttatttt tgactgtttt ggaaaaaaaa tgtttattg ttttttttttc ccagtaaaaa   1560
ttacttcaaa gaaaacgta                                                1579
```

<400> 5663

```
atgagagtgt gatattttaa agtcagacgc agcaaaaact gtttcagggt gaagaaagac     60
ccctttcagc cctgttttgc agccctgggt gggggcatga gatagacagc aagcttctga    120
tcttgaagct tgtctagaag acacatcttc taggtctcgt ggtcatttgg taggctgacc    180
tttgagtgag cgaggccact attgagtgga tagcaagaac attggaacca aagcctcggc    240
acaggcctgg cactggctgt acatcagctc ttacaactaa acaactcaac taagcaactg    300
aaacgaaaca aaggagcatt cgttctctgt gttaggaat cattctgctc tgttagggaa    360
gggctgcagg aagggcagtt tcctgaataa aaatctggct gcgaccagtc ccatgtgtct    420
ggtaagtaag taagtaagta agtgcccttt gaagggatca ttaagacaca gggagcatga    480
```

2574

```
acctgagatc agaagcattt ctttactaat ttagattctg cgaaatagac ggacctctcc    540
accccccaaac ctaaaacagg ccaggacttg tctctgtgct gaaagcaaat agcaagacta    600
actcaagccc cagcctcttt ccacactccc tgatacctaa ggactgcttt ctcagctaga    660
ccagggtggg catcagcgac gccttctcag ctagaccagg gtaggcatca gcgtcctctc    720
tccatctcta tacccctctc tctcacatca ggaagatgaa atgtgtagct ctagcggcaa    780
cctctagcca ggagcccagt ggcctctcag attgcttttt ggccaggtct cagcactgct    840
ggcatcttta catcttactc cttaaaaccg cctctcgctg aggagccact gcattttgaa    900
gaatttctca gtgtctgtca ggaaagtgct cctgctcatt tggaacgcca cacaccaccc    960
gcactcacct gtccaggcga atgagcaggt cctgtagctt tacaaatatg ccgctgatgc   1020
cgcttctccc cagggtctct cagttttcca ggacaaaaag atttagggcc tatacccctat   1080
gggcaaaaca cctaaaatgt caacagtcaa aatgccattc tttttggcca tcataagagg   1140
gagtaggtat cactgctgca tgccagttgt ttttgactag aatatgccaa ccagagcttg   1200
ttggggcagg agacgttttt ccttacaagc agactgcctg tgccctgtgc cctgtttgct   1260
acttcactgc catggaatga tccgagtact gtatttcaga gctgcccctt ccccagcagc   1320
aaacactcgc tgagtccatg tctggcttca ggtgggagga aatgtttcag atgaaactta   1380
ctcaattcat accaccctga aatggaggac agaggtgaca aacttcagtt taataggttt   1440
ctcaccaagt tgtatgttcc attggcccag gattcttgca ctaatgggtt tctatcacat   1500
catgtctata aatgggtgca ctttactgtt tgaatttgta actgaagtac tggatattta   1560
agtgtgagta atgtcttcat tagaaaatag cagaaccgct cttgtctttt agtgtatttt   1620
tcaagaaaaa aggaaaggaa agacatcaag cagtggatca caacatttat agcacaagaa   1680
ataacttgta tataagcatc aaaaagatta agaatttttt aatatgaaaa atatttgcag   1740
tgattttaaa gtgctttccc agcaatgttc ttagggactc ctgagcacg gttactttat    1800
ctactggatc agtaaggcac acaattaaca attaacaatt aatgtttatt tacaaagtaa   1860
agggaaaacc tgtgtaacat gagaatttgg catgacaaaa tggagaccat tttgtatctg   1920
ctgttgtatc ttgtccgggt tgcagacgtg cactattaaa gtcccaagtt aatagagcac   1980
aaaccttct cgctcctccc ccatgtgccc ctctttttag atgtgtataa cttaaactcg   2040
atggctcagg aaaattccac taattagaat catgtacagt accccaggtc gttgtccaga   2100
tatacaagtt tgctaatgta gttaagcctg gattattaaa cacttttcct aaattattgt   2160
aaacagaaca gcttagagaa aggtattctc agtccttaat attgtatagt agtttatgag   2220
cccctctcta aatattggta tttttatatt ccagagatgt acccaataga aaaaattaaa   2280
aattaatcag tatctaattt aatatccata agtatttttc cttagatttt agtcacgtac   2340
agtgggctat gtggatgtca cttgtgcttc accatagttt accactaggt gtcactgtgg   2400
ctctgcactg cgcttgtttt gtagcaaaga acagcggcat cccctcggga gagaggagct   2460
gcttccaggg caacaggcaa gcgggctcag aggttcagga gaaggcaaca gaggcctgga   2520
aggggtcttc gtgcatctgt gccagttgtg caagacgaac tctttgaaca ctacatgctt   2580
tggacttcag ccaggcagag gctggaagaa ggttgaccag agctcccttg ctctggtaga   2640
gggatgggta catggagaag cccctctcttc cccatgagcc tccctcctgt cagttcctct   2700
cagcctccag cttttataac tccagaagcg tcacagttgg gtggtttgat tcagagagag   2760
ttatttttct actgcagaaa tgccttggac aaaaccagtg ctcactgaat ctttgccaca   2820
aaatggaata ggctatccca gggggcaaga ggtgcccgcc cctgtgccca gcctcctctt   2880
gatgctccca gtgcccagca gcctcgcaca ccctgcctgt ctgttcctgg ctgcccatt    2940
tctcaagaaa ccgacctgca aaggcagccg gctgctgcct ccacaccgag ggctgtgcgg   3000
tcctgctgct cgctcactgg gaggtgcagc tctttctcct cttcctctag gaattccaga   3060
ccgaccatct accatgacta acaacaatga acaaagggct taggggcaag agctacctgc   3120
aaagacgtgt catggaaccc ttcaccatgc aatgccttga actcagctct ggctgctccc   3180
aagaaaaggt ggctggctgg gggcctggac acaagcacaa tggggctggt ggagccactg   3240
tgcagagcta cttgaataat cactgggttt tcatcaactc cttttgtcat acagaccact   3300
caagggctga agtgttggta accttcattt cggtgtccaa agcctcacag caggtgagcc   3360
accctgagat gcttgtggcc acatggtggc cacagtcaga gctttgaaag tcagtaccaa   3420
atgaacgcat aattggacac caaaaatcaa gtgttacttt catgtttcct caccccatca   3480
tctcattgcc tcctgctgac tctgataccg acgctgagct gacttgccag gctgccgctg   3540
gacgcgtaga gatcaggcca gcgccgcgct cattttccca ggtagaccta ctctgtggaa   3600
cggaagtgcc ctagctgctt tgtttttgta gcacttgctg gctgaatttt tcttttgcta   3660
atcgctaacc agaaagtctg gttagagggg gctcaactca atccctttgg tccccagcgc   3720
cagacaagag ttaattctgg aaaattcagt acttgaatgt acctgcctta ttgcatacca   3780
atttactggg gggaaaaaaa aagttaagag atgccggctc cagatctcca cttcattcac   3840
aggtgatttt ggaaatcctg taagttacac ttcctgttct ggttttgttt tgtttttgt    3900
ttcctttggc tgattcctgc tgagtgaggc cagttcctca tcaggctcag ggcaggtgcc   3960
ttttcaggcg tggcctcctt tccatctagc acagcatctt tgtctctgtt ctgtctcctc   4020
caaatccaag atgattttaa ttagtacaga catgtacagt ctacaattaa agagtgattt   4080
gtactaatat gattttgatt cttcctcctc tttgctgtcc tttcaagaca cttgctggaa   4140
```

```
aaagctttaa tgcacttagt tttcctttag gttttctatg actcagatgt aaaggacttt    4200
ctctgtacag tatattatcc aatgcatgtt tgttctctct cctgatatat tgaacaccac    4260
acagttgtga agccgtgcag tggggatgcc ccacacccca cagaggcatc taccctgtg     4320
tataaggaaa gacattttcc tttgctgtac ttgcttgagc agttttattg tctgtacatg    4380
tgagctgtgt gagatagatg tgaaaagttc aaatgaatgc attttcctgc cccatgtata    4440
cagattgtca tctgtacaag gaactgtatg tatgaaagca aatgtactta tttataaatg    4500
gctaacactt ggaaaaccat ggtgttgtga tgcttttctc cttccattac agcctcttca    4560
gggagctggc ttttaagctt accctcctga ggatgcagtg atgggggcac cctccctcag    4620
gaggaattgg gcaggttagg gctaaggcca aattcccgat gatttgcttg gtctcttgtg    4680
ggacattcag agccacccct ttgtgcattt atttgctcgg tcacgttatt gagcacctcc    4740
tctcctcaga gttggacact gtggtaggcc ctcaagagag ctgtggacaa gagacgccgt    4800
tctaaggagc tgtcagcaca ggcctgtgac atttgttgag aaaggggggc tttttcttca    4860
ttggaagagg tttctctcta gctatacca gggagcactg agctcttgtt tcattttgta     4920
gctgaagctg cacccaatcc agccacccta ccaaagccaa ggctgaggtg ggctgccagc    4980
ttgagtggct gtgtttagag gctgcatgct gagagggtag cgagcagagg gcacagctcc    5040
cactgcagac ctaagggctt cgtcacaact ggaggcccac tgcttccagg ggctttgtct    5100
tttcatcaga aatctggtcg aactccagtc ctcaccatat agagagctag gcagctgcat    5160
tgtgaatgga aaagtggcag gtttcctgca actggctgga gactcaatac catctaaaag    5220
ggagtgggga agcgggggag cagcactgag cctgcagcct ttcctgttta actgctacct    5280
ctgtgtttac ttcagggaca agcgaggagg gagaccactt cctcttgaca tcagatttgt    5340
gctaaacaaa cattcctgct gtgcatacct gcatttccca aagcctaggg aagcagacaa    5400
actgcaggca acacacagcc cagcctagat gccacagttg ccttcaaaga gaagagggga    5460
ctctggcagc agccacctgc tcaatctcaa aaccattcct gggctgctcc agttatttca    5520
ttaaaaaatg ggtaagtcgg ggccgggcac ggtggctcac gcctgtaatc ccagcacttt    5580
gggaggctga ggcgggcgga tcacgaggtc aggagatcga gaccatcctg gctaacacgg    5640
tgaaaccccg tctgtactaa acaaaataca aaaaattagc caggcgtggt ggcagtcacc    5700
tgtagtccca gctactcggg aggctgaggc aagagaatgg catgaaccca ggaggcagag    5760
cttgcagtga gccgagatcg tgccactgta ctccagcctg ggtgacacag cgagggtcca    5820
tctcaaaaaa aaaaaaaaag tcattggcaa aacccccagct ttttaattta tatttttct    5880
ttctttttt ttttttttt ttttttttt tgagacagag tctgtcaccc aggctagagt    5940
gcaatggcgt gagccggct cactgcaacc tcctcctccc aggttcaaac aatttttcctg   6000
cctcagcctc cctagtagct ggaattacag gcacccgcca ccatgcccag ctaatttttg    6060
tattttttagt agagacaggg tttcgccatg ttgccaaggc tggtctcaaa ctcctgacct    6120
caagtgatcc acctacctca gcctcccaaa gtgctggaat tacaggcata agccactgtg    6180
cccgacctag atgttttgtt ttgtttttag atggagtctc actctgtcac ccaggctgga    6240
gtgcagtggt gtgatcatag ctcactgcag cctcaacctc ctgagctcaa gtgacccacc    6300
cacctcagcc tcccaagtac ctgggaccac agtgcatgcc accacgccct gctaactttt    6360
gttttgtttt gcagagatgg agtcttgtta tgttgcccag gctggtcttg aactcctggc    6420
ctcaagctgt cctcccgcct tggcctctca aagtgctggg attacaggca tgagccacca    6480
cacctggcca aacccccagc tttttaagaa gtcctgggac attggaggaa aggaaaagga    6540
gtgattcatt taaaatatta atacttctta aaaagaattt accctcaacc ttaataaaaa    6600
gctactcaga gtagaagcaa acagcaaact cagcagaagt ctgtgtagat cctccgaagc    6660
actaagtaag tcagactttc ttccccctgga tatctgctca tgggtacctt ttggtaactg    6720
caggcagaca cagtacgcac gtgcacatgg tggccaaact ccctgcggt cggctgggaa     6780
tgggtaggcg aaccagcggg gaatggagtc accctctttc agctttaaaa acaagttgga    6840
ggagcttgga gtcttggcag ctgagttatt ccattctcag gaataagatg gggcactgat    6900
aacaggtatc atgtctggaa ggccctgtga tgaagagagg gcccacatag aagagaaggt    6960
gctcagagtc cattctaaca ggccatcctc ttgggaggtc cattgtgtcc cagacactgt    7020
gatagggact tcacatgtgt tccctaatgt attcctcaca cctcgacaga cgacactgct    7080
gtctccaaaa caaatgcaga agcagatcct gagagctgaa gttgctcagg gtcacagagg    7140
cacaggtagg cctctgaatc agccacactg acagctcttc cctccaccac gctgcctcct    7200
ctctcagaag ggatggtctg aaaagagcaa gcaacccgaa tggcgcccca cggagtgcag    7260
gcgctgggtc caggaggatg gcttgggaaa tgccgcgtgc ttgtttggag aaataactct    7320
atgccacagt caagaggagt cgctttggga ccccagtaag aaaatgaggt ccctgctatt    7380
atccagccag agattcgtag aggaagaggt gaagtggctg gctggagagg gaggcatcat    7440
cccttggtga ctgggatcac ttcaatattc acagagaccc ataagattca gaggctggtg    7500
caaaaaaaa aaaaaaaaa aaaaaaacag aaatgagatg ctgactgagg aaccagtttg     7560
tgacatgtat caagccttgt gctttgaatg cttttcagta aataaaggtc cacactcagc    7620
tgggcgtggt ggctcacacc tgtaatccca gcactttggg aggccaaggc gggtggatca    7680
cctgaggtag ggagttcaag accagcctga ccaacatgga gaaacccat catctctact     7740
aaaaatacaa aattagctga gtgtggtggc gcatgcctgt aatcccagct actcaggagg    7800
```

2576

```
ctgaggcagg agaatcgctt gaacccagga ggcggaggtt gcagtgagct gagattgcgc   7860
cattgcactc cagcctgggc aacaagagcg aaactccgtc tcaaaaaaat aaaataaaaa   7920
taaaggtcca catggaagcc ttgattcagg agggactcta caggtgccct aaggaaagac   7980
ctctccgttc tggctcctac acgttagaga ccagctacaa tgcagaagac aaagttgaga   8040
ccaacgcggg gaagcaggga ctcctgttac cttattagag gatttgctgt tgggtccctt   8100
taaatagtga gctctggtga gttttaaat tgctttaagt aagtcagagg tccccagccc    8160
caggggccaca gaccagtatg ggtctgtggc tgttagaacc tggctgcaca gtaggaggtg   8220
agcagcagcg ggtgagcatg accacctgag ctccgcctcc tgtcagatca gctgcagcat   8280
tagattctca taggagtgca gaccctatta attatgaact acgcatgcga gggatctagg   8340
ttgcatgctc cttaggagaa tcgaatgatc tgtcactgtc tcccatcacc cccagatgag   8400
actgtctagt ttcaggaaaa caagctcagg gctcccattg attctacatt atggtaagtt   8460
gtataattat ttcattatat gttacaatgt aataatataa aaatgcataa taaatgtaac   8520
gtgcttgaat catcccaaaa ctatccccca ccccagccc tggtctgtgg aaaaattgtc    8580
ttccacaaaa cctgttcctg ctgccaaaaa ggttggcggc cactgcttta agtgacaagg   8640
cacaaagcgc acagtacgat cccacccaaa tttgccaaaa actcaccttc tgcctgagcc   8700
acgtacgtgg atctaaagtg gaatctcagc tcgttccaaa agctttgctc ctcttcttaa   8760
ggatcaaaaa gactgatttc aaagggaaag gggtccatta aacactgggg gaccttcctt   8820
gccaaggctc ttatcaggct cttgcagctc caccatccag gccaccctct caggctgaga   8880
ggaaagggct tatctaacca tgtggaaaca acactgcctc tgctgggtcg agactggaca   8940
accgctgggc ctttcagcc cctaggccat gatcaatatc actaatcgct ttaccttctg    9000
tgcccagcct gcggatattc aatttctctc aggcctagag ctaacgtcat gtgtctggct   9060
gctaaaagct ccggctcctt ttattaccac agtaaggaa gataacaggc gagaggtctg    9120
ctgtagacat ttattgaatc atctgttgca ccaacagcac attgtatttc acagaagatt   9180
ggccacaggc aaaataaaat aacccaccac aaatccgctt ctgggggcct tcttcagctc   9240
cttagtcatc cagtgttcac tttggcaaac agaccagttt acagacttttt gttgcaaatc  9300
taaggttcca tttctctctg tagcattccg gctagagaga gacacgattg tactttggta   9360
gtttgtctaa ggcggagttt tcccacatgt aaacatttca ctatacaagt gtgtgccagc   9420
tgattgaaga actgacggca cccctacccc tgaagagtgt acagtctaaa caggaggcga   9480
acactgtcat ccggacaggc tgagaggagg cggggaaagg ggctcgaagg agcctgggca   9540
gaccctgctg gggaggggcc tggactacaa ccacctgctc ccagaaatga cactgcctga   9600
ggcaggagac acagcaaaag ccaactatgg gaaatctgag cattagagga gactggcccc   9660
tttctctaag acggcctcag gtaggaaaag ggcagccatt acaagaagaa gagtcgtcag   9720
gtttggaaac tgtatattaa gcccttcact gaagtacaca gtgtctgtgt gtgtctcaag   9780
ctaagccatg ctcctcaaac acccaaaaag aaaggaaaac agggagagaa cagtcaccag   9840
atccaagaag cacatgatcg gtgttctttt ttttttcttt tttgagcctg tcgcccaggc   9900
tggagtgcaa tctcagctca ctgcaagcgc catctcccgg gttcacacca ttctcctgcc   9960
tcagcctccc aagtagctgg gactacaggc gcccaccacc acgcctggct aatttttttg  10020
tatttttagt agagacgggg tttcactgtg tttgttagtc aggatggtct tgatctcctg  10080
gcctcgcaca cgatcagtgt tctaatcaca ctatttccag gccgaagcca aatggtgact  10140
cagctaacat gacactcttt atggggctgg agtgatgtgc agacaccacg ggggatgact  10200
gtagttgttc tgactccatc ctgacttcct ggaaagatgg gcagcagata aggagaaggc  10260
tcgtcctcca gaacagaggc agcagctcca gcagcccag ggggctctag ccacagccag   10320
cagcagcggt tttttcattta aaaaattata aggtttgtgc cctctgcctc ccagcctgag  10380
cagagcctgg gtgagcctgg gagaggaaac cagagctgag ccgcaagggg ggtgctacaa  10440
ggagggagcc ccagcaggaa ggggctgcaa ggtgcccccc atccccaacc cccatgtctg  10500
gagcagcctg ggaggaggcc cgcctgcatc tgccaagaga aagtctgtct gaagtcatgg  10560
gcttctatcc cctctcccac caaagccatc ctagggctaa agggttaaag aagaggaagg  10620
tcaggactac agctgggcca cagcctcatc tcagagcttc ccaggggcca gtccctcccc  10680
tctcctgggg aaccttgctt tcaccaccaa catactttac acatcatatc acttgctcct  10740
ctgccaaagg ccgggcccat ttgtgccacg tgttattcag gctggaggga ctccttgttt  10800
gaattcagca gccatcgtgg cctttccagg cctgtccctg aggcccccc agtttcccct   10860
ggccttgccc caggcatctg ctgccaggag ggtggggcct cctctctcgc ttctttaaag  10920
atctgtgctc tgcgaccagg accgaacacc cgaagtccta cccaaagcct tctgcactga  10980
aggggcaac agagacacgg gagccacaca caatgaactg gtctatagca gcggagaaag  11040
gagaagcaga ggaggcggag acctgacccc agaaagcagc actcaaacag atgcagctgc  11100
acccacgcgc ccgcctgctg ccagagccac tctccggagc ctgcagtcct gaagacgcct  11160
cagcagggc aggcaagaag acaccccgcg aacccccagg gccggcgggg cgcatcactg   11220
ggagccgggg ctatctccct ccgtcagcgt cttgaagtcc atggagaggg cctgctcttc  11280
cgcctgggaa ggccgcttcc agtcggcccg ggtcaagatg tagagcaccg ccccaccgaa  11340
gcaggccagc agcaggccca gcacgttggc caggacaccc tcgggctcaa atgcgctata  11400
cttgccccctg caggggtgag aggaagggag aagctgccca agggggtcaca attaggccaa  11460
```

2577

```
atgccctttg tatcctgggc cttaaagatg ccatggggat tccagcacca gcccctgcct   11520
ccctgccctg cctgaagaga acaaccatcc ccccgccccc aaccagcaat ctccagctat   11580
ggctcacaga caaaaagaga tgggcaatgt aaaaacctag atcaatattc tagctctaag   11640
cagttgtcct gcagatcctg ctgcgtggtg ggaataaata gggtgcccat agcccagaag   11700
tttctttgaa agggtaaaat caagaaagct aaccaaagcc aagccccaag cacccaaatc   11760
ttagcaagca taactacagc caccagttgt gacgccacga gaggcggctc aggaagccac   11820
agctggggaa gctgaaggca gggtgaggtc tgtgcaaggg tggcccaggc cctgccctct   11880
cccacccagg acactcaccc gaggttgaac agcagtgcct ccttcaggcc cagcagggcg   11940
gtgcccacgg aaaggaggaa gatggtagca ccaaagaaga tgtgctgtgg gcggtagcgg   12000
ctccgcaggg agaatgaagc tccggggaac aggaagaagc tgaagcccac cagccactag   12060
gatttgaaag gagacggttc cgggacaggg cggccggaca ccccagcagc cgaggtcggc   12120
caggcccaca cccacgtgcc cacgtggcga ctgtgagccc ctcagccctg cctggtttcc   12180
ttcctcctca gcacagtggt gggaggagca ctaagcgctt agggacaagg gaccggtccc   12240
ccaacgcttg aggccttggc acactcagaa agctgggctt gtggccaaaa gtgctgagtc   12300
agccatgggg cgcctgggag ctgggcaccc ttggccgcca atcctagctt tgcacccgca   12360
caggcctggg aaggcagctc tctcacctgc acacacccca gaaatcaggc ccttccatga   12420
ggtacatttc agcccagctc ccctcctcct cccacctccc tggtaggtgg ccccaggccc   12480
ggggtgttgg aaggactcac ctgcacaaag tacaggacaa agacaaggat cccgcaccag   12540
ctgtgtaggc tgtacaggtc agcgtagccc ttcttcctgt ggtagtcgaa caccgccacc   12600
aagcctgggc cagagacagg tcatatgagg acagggttgg atgtggaaaa ggaaggtgta   12660
agatgaccca ggggaaccag ctagcgggac ttctgggctt tagtcccagc tcgagggctg   12720
ccagcaccta gtggccctgc aggggatgtt tggggtgggg gcgggcccat cacagctctg   12780
gggagggaac agagcaggtg aagcggctgt ttgccatacc tgaagaggca ggcaggtggc   12840
ggggaaggcc gcgcccggga actcaccaac cagggcgatg acgagcgcaa agatgtgcag   12900
cagcccgtgc aggaccttgg tggtgcgttt agcttcgttc ctgaagacac ggtaaaccag   12960
cagggctgtg ggaggtgaga gagggaacgt gagtgcatcc gcctgtgcgt gaggcctcct   13020
gccccagcag caaggaggca ccttggtgga gaggtgatgt gagctgacgg cttgtaacag   13080
gagcctagct gcaggaaccg gaggagaaag ccaggttccc tggggaccct gggcagctcc   13140
tggccttctc tgagggcacc tagggctgtg tgcaccttaa cacccctccc ccaccctcca   13200
acctcccca gctgtgcaca aagagggcag ggccggaggc tgcaccacag tccccaccac   13260
caggacaggc agtgaaggca gcgcctctgc cctcgtcccc acctaaagga gctgcccggc   13320
ccagcagacg cccccctcca cccaccttct tgtcaggtgt cctgcaaatt ccaggctgtg   13380
tttgaggtcc actgttggtc acactgaggc aacaagcagc ctctgagttc acctgttagc   13440
cacgtggctc ctcacacagg cccccaccta agcctgggca gatggtccta ctcctagcaa   13500
gcaggcgcct ggctcccaag cagaaccttg tgatcccagc ctgatctccc gcgtccagaa   13560
gaggtgggca aggccaggtc acgtgaggaa tgcctcttag ctttctgctg ctcaggaatg   13620
gctgtcacca ggaccacctc taggaagagc gggtcaaccg gatgcagatc ccgcttcctg   13680
gatccctggc ctggaggcag gtggaggcca agcactgcct tgctcctgcc ccaggggag   13740
gcgctctagc tctgccaagt ccaagaccaa caacacacat gcgcgcgcac gcacgcacgc   13800
atacaaactc tcacatatga ttacttttt tccctcaatt caaaccaccc ctgcagcagg   13860
gcctggctcg gagcctcatt cctttccctc tgctgcaaga agtgcccgcc ttggatgctg   13920
tgtgtggaaa cgaggtgaaa atgctggacc aggctggaga ggagctgcca ctcaccaacc   13980
tcagagcctg ggtttggatt ccatctcccc aggctctgaa ccagcttctg tctctgtctt   14040
ttctagaatc ttagatttgt ccaaccagaa gagaccgcag gggtgacaag accctgcaa   14100
actgcctctc agggaccccc acaagcccgg gaaaagagga gcggcccatg ggactcacca   14160
tttccctgca ggaagatcag gcctatgacc atgcagaggg ggtgcgcgtt gaactgcagg   14220
tcgctctccc aggcaatgcc gcctcggtac agcccgagcc acgcgccggt catggccacc   14280
aaggtcaggc ccagcagctg ggagaaggcc acgctgcaag aaagagcaga gctcagagga   14340
gccgcggccc cgccctccat gctgaggcaa acgctgcaag aaagagcaga gctcagagga   14400
gcagcgcaca gcaccccgag atgcgcacag ccccccgcgga tgcacacagc ccccaagat   14460
gcgcacaggc ccccgagat gtacacaccc ctcaagatgc gcacagccgc ccccggagat   14520
aagcacggtc ccccagata tgcacagccc ccccgaaat gcgcacagcc gcccctgcta   14580
gatgcgcgca acacccccc cgggttgcgc acagcccct ccagatgcgc acagccaccc   14640
cgctagatgg gcacagcccc cccgagatgc acacagcacc cccagatgcg agcagccccc   14700
ctgagatgcg catgtccccc ccacggatgc gcacagcccc tagagactgc gcctgagatg   14760
cggcgcggct cctcccacgg cggccccgcc accctccccc gaggctcccg ctggaagcag   14820
cgctcgctct cctacccgca agcccttcc cacccatcgt cctgaggcag aggtctcaag   14880
tctcgggagt ggctgggggg aggggcccag cctcccacg gggacaggcg tgacctggga   14940
cacgacgcca ggagttccat atgcggtgag ggtgcaagga aagataccc aaattctagt   15000
gagctcaagg gcccagtgcc cggctttgtt ttctgtttca tgaggccctg gccttccctg   15060
ggtgggcttt acaggtgagt tacacaggca agcgcgctcc ttgacgggaa ggaagggct   15120
```

2578

```
ggtcacacct tttctccaga cgcgtcatga agtacatctc gggagaaatg ggaagtctcc  15180
ctcccccatc ctggttttta actccatgct ggcgatgagg aggcctcccc accccacacc  15240
caggagagcc agccccgctc ccccacgcc cccgcccgcc ccccaccccg ctccccgccc   15300
ggccgcgcct gcagagtaga agtgccccga ccatgctgca cacagggacc tgtcagcaca  15360
cagggacagg gcacttcccc tccacaccag gggcggggcg gacccgcact ctagaggggc  15420
cctcagggag gtttccaaaa ctgaaggccc ccagaaacga ggcctgcgaa ggggccgggt  15480
agagctcagc acggctgtcc caggtgctcg gccccacgtg gccctccagg aggaaaggag  15540
agcgggtggt tcctagcgaa gcagcaatga gaaggccccg ctaagagccc aagggagtgc  15600
ccagtgcctg cacagcttca tgccggccgg agagcaccca gcagctgggg atgggaggag  15660
aggcggcagg aggagaacaa gcggggctct cccctcaccc ggcagcggcc tgtgcgccac  15720
ggaaaagtgc tgccatggcc cacagttgcc actgcaactg ccaccaccat ggccaccaca  15780
agcagacccc agagcactgc tgctgccccc catcccgccc cggttcccca ctggcccctt  15840
gccacggtcc agcctctcct ggcagcaact gtatcagaac taggggggaca gtggccagca  15900
caggggcact gacccccttc acacccggca cacgctctgc cctgcagtgc ccaggagctg  15960
gttttcagtc cctcccagtg atgggctcct tctctgctcc ccagttctct ctgccacatc  16020
ggacaactgt tggcaactcc accattaaag ggggggtgtg tgtgtgggcc gggtgcgatg  16080
gctcacacct ataatcccag cacctgggga ggccaaggcg agtggatcac ctgaggccag  16140
gagttcaaga ccagccacaa catggtgaaa ccctatctct actaaaaata taaaaattag  16200
ccgggcatgg tggctcacac ctgtaatccc agctacttgg gaggctgagg cactagaatc  16260
ccttgagctc aggaggcaga gtttgcagtg ggccaagatc gcaccactgc attccagcct  16320
gggtgacaga atgagactct gtctcaaaaa aaatttttt taattaaaaa aaaaagggtg   16380
tgtgtgtgtg ctaataatcc acacgcactg cagtagaata tggatcagca aaaaaggtaa  16440
aatgacaggc catcagaatt tgatctatat cctcacacac cttcttccta aaacacatat  16500
gcatcctttt atagaagcag gatcatttat tccattttct aacctgcttt ttaactgagg  16560
gcgtagcaca catggatgtt tgtgtcaatg gatacgcgcc cacatcatca ttttcgtaac  16620
ctcacactct tgcattgcac ggccattttt tagccaacta gttcccattg ttcagcattt  16680
agctagcttt cgatttcagt tttccaccaa ataaacaaca ggatgtggtc atctgcaaac  16740
ttctctgcag ggaatcctga aacaagggct aggttctgtt ttagacttct gacacattcc  16800
atcaaatcat ctcccagaaa catagctcca atccacattc ccaggtgga cgggaatacg   16860
ggattccaga agccccagcc aacaataaat cctatttttg gaactcctgc ctctgtcctt  16920
atctgtcacc tacacgggta tcagttctgt ccccgccacc ccaaattcaa gccccatttc  16980
tgacggttca ctactcatct ctacctggac atcccacaga cgcttcaaac ccagctcgtc  17040
ccaagtcacc ttctctccca tcgtcgccaa gttctctcat gccctcccca ctagctagca  17100
gggctgccct tcttccgggc ccaggtgaca cctcagctcc tccacagaag gctgcccagg  17160
ccgccgcatg ctggcacccc tcccctcact tccctcctga gcatcctcac tgccccaccc  17220
aagtcagggc ctgcagcttc tccctcttca acgtgacaga catgccaggg acaaagccag  17280
ctcccaacat catgctgtcc cctgcgtaag tgcccccgag tgccagtgaa atgccaactg  17340
catggcatga tcctgcccgt ttccatctgc agcccccact gttcctgcta ggccctctag  17400
aggagacgcc tgggctcaca gaatccaagg acatggccca gcctggctcc ctgctgtggg  17460
cccacacccc tgcctccact cctcaggcac cgcggtgcgc agatcactct gtccccaggc  17520
tctcccggag cctccttacc ctcgcggtgc cctgtctgct cctcgaaggc agggacgctc  17580
tcactcctcc ttgggtatct ttgggtctct aatacccga gtctaacagg aaaatgtact   17640
gaaagaagtg ctgtcccccc tggtcacttg ttgtctgtcc tcctctccag gtcgccgcct  17700
cctttattag attcatcccc agagagcctg gctgcaggca gaatctgatt agctacaaat  17760
taggaagaac agagggg                                                 17777


<210> 5664
<211> 20813
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (1056)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (1060)
<223> n equals a,t,g, or c
```

```
<220>
<221> SITE
<222> (1068)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (1244)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (1944)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (1949)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (3956)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (4155)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (5594)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (5597)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (5684)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (5870)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6644)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6647)
<223> n equals a,t,g, or c
```

2580

```
<220>
<221> SITE
<222> (6657)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6692)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6698)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6727)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6733)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6890)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (6900)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (7018)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (8611)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (10148)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (10379)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (10677)
<223> n equals a,t,g, or c

<220>
```

```
<221> SITE
<222> (10838)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (10890)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (10955)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (10958)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (11101)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (11178)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (11273)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (11491)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (12008)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (12329)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (12338)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (12375)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

2582

<220>
<221> SITE
<222> (12544)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (12712)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (15467)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (17110)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (17157)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (17159)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (17160)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (17244)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (17248)
<223> n equals a,t,g, or c

<400> 5664
atgagagtgt gatattttaa agtcagacgc agcaaaaact gtttcagggt gaagaaagac   60
ccctttcagc cctgtttttgc agccctgggt gggggcatga gatagacagc aagcttctga   120
tcttgaagct tgtctagaag acacatcttc taggtctcgt ggtcatttgg taggctgacc   180
tttgagtgag cgaggccact attgagtgga tagcaagaac attggaacca aagcctcggc   240
acaggcctgg cactggctgt acatcagctc ttacaactaa acaactcaac taagcaactg   300
aaacgaaaca aaggagcatt cgttctctgt tgttaggaat cattctgctc tgttagggaa   360
gggctgcagg aagggcagtt tcctgaataa aaatctggct gcgaccagtc ccatgtgtct   420
ggtaagtaag taagtaagta agtgcccttt gaagggatca ttaagacaca gggagcatga   480
acctgagatc agaagcattt ctttactaat ttagattctg cgaaatagac ggacctctcc   540
accccaaac ctaaaacagg gcaggacttg tctctggtgg ctggaaagca aatagcaaga   600
ctaactcaag ccccagtctc tttccacact ccctgatagc taaggactgc tttctcagct   660
agaccggggt gggcatcagc gacgccttct cagctagacc agggtaggca tcagcgtcct   720
ctctccatct ctatacccct ctctctcaca tcaggaagat gaaatgtgta gctctagcgg   780
ggacctctag ccaggagccc agtggcctct cagattgctt tttggccagg tctcagcact   840
gctggcatct ttacatctta ctccttaaaa ccgcctctcg ctgaggagcc actgcatttt   900
gaagaatttc tcagtgtctg tcaggaaagt gctcctgctc atttggaacg ccacacacca   960
cccgcactca cctgtccagg cgaatgagca ggtcctgtag ctttacaaat atgccgctga   1020

2583

```
tgccgcttct ccccagggtc tctcagtttt ccaggncaan aagatttngg gcctataccc   1080
tatgggcaaa acacctaaaa tgtcaacagt caaaatgcca ttctttttgg ccatcataag   1140
agggagtagg tatcactgct gcatgccagt tgttttttgac tagaatacag tgagcgcaac   1200
gcaattaatg tgagttagct cactcattag gcaccccagg ctcnacactt tatgcttccg   1260
gttcgtatgt ggtgtggaat tgtgagcgga taacaatttc acacaggaaa cagctatgac   1320
cacgattacg aattcgagct cggtaccatc ccaacacttt gggaagctga ggcaggcgta   1380
tcacaaggtc aggagttcga gaccaacctg accaacacgg tgaaaccccg tctttactaa   1440
caatacaaaa atcagtcggg tgttgtggca catgcctgta atctcagcta ctcaggaggc   1500
tgaggcagga gaatagcttg aaccgggagg tggaggttgc agtgagccga gatcgcgcca   1560
ttgcactcca gcctgggtga cagagcgaga ccccgtctca aaaaagaaa aaagaaatgc   1620
aaaaaaaaag atttgtctta gatcttagtc tggctaaaag aaatttttt tttttaata   1680
aaaatgactg attgattgag acagggtctt gctatgttgc caaggctggt cttgaactcc   1740
tggcctcaag tgatcctccc acctcagcca cccccatgcc tcagctggga tcacagacca   1800
ctgtgcccgg ccacaagtat ttatgtagat gtctcctctg gtagactgca accaacttga   1860
gggccatgtc ccctggcata gaggaggtgc tccactgaat taacaagtga atgactaaat   1920
aggatataaa aggtgatgag tagnactgnc cggctcgggc tggggcactg ccactgtcta   1980
tggaacatga ccaaagtgac aaaatgggaa gaactgaatt cgtcacaaaa agaaattcag   2040
tcaatctata catgttcaag ttttattaca aagtatgatg ggcagaaaat acggtacttc   2100
ttatacagga ggctgaaaca gaatgaaagg gtgaaaatta ggtttaattt acttaggaaa   2160
caagaaatag aaagtcatag ctataacact ccactttcag gtgcccatga agtagccttc   2220
aatggagatt ccccatagtt gtttcacagc acagtgttaa aattttatta caagccctgt   2280
gtacaatcag tcctgtgaaa atatttataa aagaaaaata ttacagtaca gttctgcaag   2340
gggcagcttc ctctacacct gaccgtggat gccacaaaac ctataatata gagggaaagt   2400
ttaaatatat aacaagaatg gaagttcaga catactaggc taaaggacac agaaatggat   2460
cagttagagc ttaacatttc agagcaagaa atctccattt tctacataga ggtttataca   2520
atcatgctac aaattcactc tgggtggggt ggggaaggaa ggtcactgac aagaggggta   2580
gtaaaataca caggaaccaa agcaagtgag tcagactcaa ctaaatcgat tcaaagcttc   2640
agctcaacaa tttcataac acatggtata ccacaatcaa cccaaggtga gaacatttct   2700
tttaaatagt agatatcaca tgttcataat cactgggttg tcccaaaggt gggtgcctat   2760
aaactttcca gctgttacat agactgtcaa catctttctt cttgagttta aactttcttt   2820
agcttatttg tttctcgttg gatataccag tccaagcctc tttgggaagg cacctgcatg   2880
tttccatatt ttaaaaatga catccagaaa gtagcctgag aggacctggc ccatcccatg   2940
tggccacaca tttgactttg accattagca gcagtgacac tgtgagaggg ggagaaggtg   3000
caggtgggtg aagtgggcaa gggtctgcaa cacgagacgc tctcaggagc tggcccagcc   3060
agggcctggc ccagggttca cagtgacttt gctctgctcc gccctcttcc ctgggaaaac   3120
caatctaagt atcaagcatg atcttccttc ttcgtcctgg agtacacaca gtaaagggaa   3180
aagtctgctt tgaggcttct acttcaatgg tctcccctac cccaagccag gaatgaaagg   3240
ggctgccata ttctcaaagt ggggaaggca gagggacagt actgggctgc cctcccacgt   3300
gtggtaaacc ctgcagctgc tacatgtctt cacagcccag gaattcaagg cccaggtggc   3360
agcaggaaga aacagtggaa aagcaagggg aagagaaaag agaaaaagga gggggaaagt   3420
ctgcataact gtcataacct ctgcttctcc tgctctgtaa caaacccaca accaggaaga   3480
gtcatggtct ggaacaatca tgggacccca aacgcctgta ggttttttac caccaaacat   3540
cacccatggc tgctctaagc tgtcattttg ttcccacagt tacctagcat cacggatgcc   3600
caatttgtgg cgcaggaagg ctggcccagg ctaagggcag tctcactcca cagccatgca   3660
atggacagtc tgaatgtttc cctaccccag accttcactg acctctacta tttcctcctc   3720
tgatataaag aaaacacttt aattttctcc tgcatcctac atctcctcct aaaattttgg   3780
ccctaattgt catcaaaacc ttgtaggatt ctgaattttt tgtttcttcc tgaatcttag   3840
ccagttctct cagagccaat cctggattta taaggaattt tcacctattt tttttttttt   3900
ttttatttt tgagacggag cttgctcctg tcgcccaggc tggagtgcag tggccngatc   3960
ttggctcact gcaagctcca cctcccaggt tcacgccatt ctcctgcctc agcctcccga   4020
gtagctagga ctacaggtac ccgccaccac ccccggctaa ttttttttg tattttttagt  4080
agagatgggg tttcaccatg ttagccagga tggtctcgat cttctgacct tgggatctgg   4140
ccacctcagc ctccncaaaa tgctgggatt acaggtgtga gccaccacac ccatcctcgc   4200
ccagttatta aataccttcc ctcttcaagt cctaaccttg caggctaatt cctccctgga   4260
agaagaggat tccaatgctc ctgagcataa aaaattcagg tccttgaatg acgtggaccc   4320
attctccagc tctctggtgg tagaggcctg aggcctaatt tattcagcac ctccatcctt   4380
cagtcagaac agatgaggac aatacaggca gctgtgcctc aggctgccag gagcaaaagg   4440
gccatcacca gctgggccac agcctgcgga gcctccatgt gggcttcctg ctaaagtcct   4500
agtggctgct cctcccgcag tcagggagaa cagatccagg gcctcccacc cagtctcgct   4560
ggctgtcagt ttgagaacct caacaaatta cagagttgtt tttgcaacta caacagatcg   4620
gtgctttctg gagcatggat ggcttacaga ctttctaaat cctgagactg tagaaatccc   4680
```

2584

```
ctcctcagtc atgggtcgtc gggctggtgg agtaaaggga gggtaagaga gctgggactc   4740
aaagaccagc aactcatcaa ctgtgagtat gtgtgtgctt gcttaggggg gtggagtccc   4800
cctgggtccc cggtggcatt caggggaaga ctgtactgca ggacctaagg aaggatgaca   4860
ggagctgggc gtccacaggg caagggaaat ctcaaaagtt gttggtttcc agagtaaata   4920
gctatcttat gcaaatatgt tctaattatt attttttttt caagttgttg tttctgagtt   4980
ccagctgaca aattccacca tacagaccag gcgtaggtgc agatcaggaa aggaatctta   5040
gaactcagtg gatgtaagcc ctgcccagca gaccagcccc ttctaccact gacttccatt   5100
tcagaccctt ctccacagga aggaactgat ggcctcctaa acaagcagcc atcagcttgg   5160
ccttgctacc cttgagagaa ggacccagta accattatca aacacaatga aaagcagagg   5220
agggttctga ccaagaactg ctcgctttgt atctccaaac gatgcagtgc aaatccagtg   5280
gcaaatgcag gagaggcaac cacaagcaca tggccagcca gagtcctaaa atcagaacaa   5340
caaagtaaaa gggtagaagg ggaaatatgc tggctaaaaa aagagccttt ttctttggga   5400
caggtccctg tatggtaaag caaagagcta gacttttggc atataatgac atctacttct   5460
gaaaaggaag acttaaccaa aaaagcttaa gggcccagaa gaacaaagtt actgtttac    5520
ttctcaagca ggtgagaacc aaagaggaca aaaccatcat ccttcaggcc tgctactcta   5580
ctaatctcag atgnagncaa ttcagaggga cttaaaaacc ttcgggtagg agcagagcgc   5640
aaggaaacag ccaactttcc cccaagagca catcccaaac tgcnctgccc caagggctca   5700
tctaacggtg gaatcacaca tatgcccctc catggaactc attcacataa cagaaagaca   5760
cctgcggcct gcaagtcaaa agacaactgc aggctacaag tccaatactg ctcagaacct   5820
aaactggggg agagaggggt tgacaggtgt gggtagagct cttaactggn ctgaccctgg   5880
gggtctataa ttccttttcc ttctttttt ttcctctccc ttttcattac ccacagtata   5940
atgctttta actatctatc cacttgacag cccaggattg ccgcagtcca tcagtccatc   6000
tctcatgtaa ggtcttgttc agggttggaa gcacagacag gatgcctcgg gaagactctc   6060
tcacctcaga acactcaatc caaagaatgc ccaatatacc accaggcaca gtaaactcaa   6120
acaacagaag caccgaagtt caactcagat atcattcttg cctatcattg aaaagacact   6180
aagtggaatg gcctggggct tatatttgga tggaaaaaca gactctgaaa gaatgtactg   6240
gaaatatgct tgaagttcag cttcatgaaa cgattcccct caagtcaggt accctgagag   6300
cctgtttctc tcagctctac catgctgcca gtgggaacca atgggctgga cagtggtgct   6360
tcagggtaaa cagaggcttc ctatgtctgt ttacaagccc agaatgccct tgagaggagc   6420
caggctaaga aaggtgtgat gagtcagtgg acttcagagc accaaggtgg tttggactcc   6480
cggtcaggta tgtactacac aggcagtgac tcaagaaggc aaactgctca tggggccagg   6540
gccgttacca gctccgggac tgggggagag aagaggtgca agaggggggc tttagacaag   6600
aatgagcggg ggtaattctt tcatttcttt ttgctttctg gcgnttnatt cgtcgtngat   6660
ctgagagtca gagatatttt ctcccattcc angttgtntc ctttttgctc tgttacagtg   6720
ttttttnata tgnaaaagtt taaaattttg atgaggttca atttgcttat tttttctttt   6780
gttgcctctg cttttgatgt catatccaag caatcattgc caaatccaat gtcatgaaac   6840
ttccctctgt gttctaagaa ttttgtagac tttgctcttt tgttcccccn ttcttctccn   6900
acacaaagat ctcatgactg tcacgttgtc caagataagg tgttaaatgt actattttat   6960
tatttttatt ttatttattt attttttgag acagagtttc attctgtcac ccaggctnga   7020
gtgtagtggt gtgatctggc tcactgcact ctgcctccca ggtgaagcga ttctccagcc   7080
tcagcctccc gagtagctgg gattagaggc atgtgccacc atgcctggct aatttttgta   7140
tttttagtag agacaggatt tcaccatgtt ggtcaggctg gtcttgaact cctgacctca   7200
agtgatccac ctgcctcagc ctcccaaagt gctgggatta cagacatgag ccattgtgcc   7260
cagccttaaa tgtacatggcat aaagacctgc attttaagtc ccttttggat tgctctgcta   7320
ctaatttta tacatggcat aaagacctgc attttaagtc ccttttggat tgctctgcta   7380
cttgtccttc ctccattgca gtctgcttca ttcattgtgt ctgcagttta gcacaagctc   7440
tggaaccaac catatgaatt tgagtcccac ttccaccatc tgctggctgt gtgactatga   7500
gcaaattcct caaccgttct gtacctctct ttcctcatct gtaaaatggg agcgttgatc   7560
acagtactta cctcatgggt ttcttgtgag gattcatatg ttgaaagccc ccagatggtc   7620
cctggcacct ggaaccaacc cacagtgagg gttggtaatt attattgtcc ctcctaaaac   7680
tggattttct cttatacttg gtaaactgta cctatcagcc atcttcagtt gggttggaat   7740
ggcctgcaca atcccatgca tgcacctgac gcttgcaggg gctcccagct tggcagagac   7800
gccatttcca tcgggatcag ctatccccc acaccaatgc tgcagctctc tggatggatg   7860
caccctgacc tcccctgtgt tagaggagag gtgggcgtgt tgaatcatgg aggcagactt   7920
ctcctttgcc gttctcgtga tagtgactga gttctcagga tctggttgtt taaaagtgtg   7980
tagcgcctcc cccttctctc tctctcctgc caccatgtga agatgtgcct gcttcccttt   8040
cgccttccac catgattgta agtttcctga ggcttcccca gccgtgcttc ctgtacagcc   8100
tgtggaactg tagagccaac taaacctctt ttctttataa attacccagt ctcaggtagt   8160
tctctatagc aatgtgagaa tggactgtct acatgcttga agcaggaagg gagactttcc   8220
tgtgagctca gtcgatcagc ttaaccagaa gtgtcactat ttttttcttt ctttcctcat   8280
gttataaata tattttaccc ataatggatc atattggggg gttatttggt cagtttctct   8340
```

2585

```
agtcgtggta tcagcccatg tgtagaggta gggccttttt gaagatgtga gccattgtgg   8400
gctgagagtg atggaaggca acccagggta cagggattct gagtgtggag ggaagtgagt   8460
ctgaggagaa atccaaggtg agacagatgg agctggcctc cacagacctc agtgcaagag   8520
tactgggggt gaccacaggc ctacagagag ctggtgtctt gccagctggt tttcagatca   8580
ggctcaggta ctcatgggca tgcaccctgg natggagggt gcccgcctca cctctccaca   8640
ccccacccag tccctacctt gtgtgccctc tcctaattgc aaactcataa catcagggtc   8700
tccctggaga aataggtatg atggggaggg ccctgcacag ccctgggggtt gattgcacag   8760
cccataagag agaaaaagcc caaacatgtg aacataagag gtcaagttag aagaacctag   8820
agagataacc tggcttccag agacccagat atatcacatc catccatcca tccatccatc   8880
catccatcca tccatccatc atcccatcca cctgctcaga agtggtccca gcctatggag   8940
ggagggcctc atcaatccct ggccataacc caagggtggc tcaagcccca gggaaaagtg   9000
gccgaggaga gcagaacaag ttctggccta aaagtcaaga cccctggttc ctcttttttgg   9060
ctcgccatta gctaactaca tgaaccagat catttggctt gactttctgg acctcagtct   9120
ccccacctgt aaaatgggga cagttggacc aggaggtgga tggggatttc cagttctaac   9180
attctgtagc tgagcctctg gcctctgacg tcacaatatg gagctggcct cacccagctc   9240
tgctgctctg ttggtcatgg gagcaaggtg gacttgccct ggaccttccc tacttgtgct   9300
cctctgttat gggcagctct tgccttggct caggatcaag ggtgaacaca gtttaggtgt   9360
ggctgggacc ccaagaagca tgggaccaga caaagggact gggtgcggac aggaccttct   9420
cagcacatga tgcccatatc cttccctgca gatgacttct acaatgagac cgagaccaag   9480
atcttcctgc agtttttatga ccaaacaggt gaagttgtgt tgaacaagtt catggaggcc   9540
acttggaact atgtcaccaa tatcaccagg aaaaatcagg aggagatgat gtgataccac   9600
ctccacccca gcctctcctc tctttgctct ttttagggat ttgggaccat ggggcaccac   9660
acctcctgcc cccatcccaa gcaagaggaa caagggaagc cccagtgtac atgtcaaaga   9720
gggctgcaag ctctgggcct cctggaagcc ctaatcttcc tccaggcaag aatctcttgc   9780
ttcttgtcct ttgtaaatct cacctccttg cttttagaga tccaggtttc tgccctctcc   9840
ctctcagcaa atcttgctcc ctaagccaat gggattaggg agtcagttag ggtgccatgg   9900
ccctggaggt caagtgggac ccttcccctg tcccccaacc ttggtggctc tctttgcagc   9960
tgcacaagga catggagagg tcccagttca tgatttactt tggcacccag gcccacctgt   10020
ttaaagtcac ccagttcaag gacccggatg tgaatggcat gctgagtaag ctgcagaaca   10080
tagacaaggc ggctctgtcc aaggacgagc tgcgggaggt gatggatgga acccccaggc   10140
ctttaggnca catgctccct ggtcctaggg gtctggtagg ggagacagag tgcctggggc   10200
aggagggagg cagggagtgg aggaagggca ggatcagaac ttcctctgga gaaggagagg   10260
agtagaggtg ggggtaccga tctctcctgg ctggtggggc gagcactggg gggggacctg   10320
gggcaccagc ctaccctggg taacacctgt cccccagta taacgagctt ctggcctanc   10380
ctggagatga catacagtat ggcccaggtg tgcctgaatg aggggccctg cctgtccctg   10440
gagtctggtg aacacccaag ccctgtccca cccaaccaca gaatctccag cactcagtcc   10500
cttccagggg cccctcccag cccccaacca ccctccctta ttgccaggag ggtgagggaa   10560
gaggcaagtg ggagtgggtc ggagctgctg tgggcctggc agggctggca ggatgcngtg   10620
gccacctcca gggacaaaga ggagctgctg tgggcctggc agggctggca ggatgcngtg   10680
ggccgccaga tctgcaccac cttcgagcac tatgtggagc tcagcaacaa ggctgcacag   10740
ctcaacggtg agcagatggg atgccacaga gcttggagtg atggcaagga aggggcaaag   10800
ctgagctttc ccagagtgaa ggtggccgta gggccctngg agacaggacc tatgagccct   10860
gcagctgggc tctccaaata ttcatagagn cacctaggtg ctaggtgctg gggaggttct   10920
gacgacacat aggtgaaaag acaggcacct gccntcnat gcacctacgg tcctgcaggg   10980
agacagacca tattcagtaa acacctgtct ctcactacca tctggggtga tgcggaatag   11040
gaagaggctg ctgagaaaga gaatgagaag aggctgctgc agacaagtgg acagggaagg   11100
nactctgaca tttatccaag acctgaaaga tgggcaaaag acgggaagca agatgtgaaa   11160
gaagagcagc ctaggcanga ggctccgcgg caggaggagc cggtgctctg gaagacctga   11220
aagaagccca ggtggccaca gggctaagga tgaggtggga taagagggga ctncagggcc   11280
ttgcaggcat ggtggggagc tcggatcatg gactttgctc agtgcctttc tgaaatgggc   11340
aggtattctc cccgtttgc caaagaagac ccagacggtc agcgaggttg agtggcttcc   11400
ctagaaggcg tctgggtatc ctgtcagcta ggccatggct aaagggtgag atggtgagct   11460
cctggtgagt cctctctcct gtcctaggtt nacaaagaca tgggggcctt gtggcactcc   11520
aagtatgagt cggataccct ggagcaagac ctggagcggc tattccagga gctgcggcca   11580
ctctacctga acccgcacac ctacgtgcgc agggccctcc accgccacta tgggcccgag   11640
ctcatcgacc tgaggggggcc catccctgcc cacctcctgg gtaaaggccc tgctggtggc   11700
cgaggtgagt gccagataag ggcagagact gtctccagcc tcctcttagc ccctctcctc   11760
ctcttccaga gaacacgttg gctcagtcct gggtcaacat cttagacccg gtcctgccct   11820
tcctgaagaa gatcccagag gatgtcacaa agatcatgaa gtccaggtt agtgcttggc   11880
ctgtctgtcc ctgcccctcc ccattggcat ccttggacaa acagggcagc gcccccaca   11940
cccctcttc tcccatagca ctggaagcca gagaaatgt tggaagaggc tgagacattc   12000
```

2586

```
ttcacctncc ttggcgctgc cacctgcccc acccagtttc tggaaaaagt tgatgctaat   12060
gaggccaacc gatgggcgag aggtggagtg tcacatctct gcctggaact tctaccagga   12120
cgacgatttc aggtgctcac agcggcacca cacacccggt cctctcctct gccctgtctg   12180
gctgtcttag gtatgggcag gggaaagcca gggcagagga gggagaaggc aagtgagaaa   12240
cacagaagga aaggtgacgt gagaggaaag ggcttggttg ctgggtggat atggggcctg   12300
gagtaagaaa gaacaattgc cggccgggnc atgggtgntc acgcctgtaa tcctagcact   12360
ttgggaggcc aaggncagtg gatcacgtga ggtcaggagt tcgagaccag cctggccaac   12420
atggtgaaac cctgtctcta ctaaaaatac aaaaattagc caggcatggt gacatgtgcc   12480
tgtaatccca gctaggaggc tgaggcagga gaatcactgg aacctgggag ccggaggctg   12540
cagntgagcc aagatcgcac cattgcactc cagctgggag acacagcaag actccgtctc   12600
aaaagaaaaa caaaaaaaag aacaactgcc aaggcctgtc tgggctccaa cccgaccacc   12660
caatccctca aggagtctga atggggaaac tcccttctc catgctcctt gnacccatgc    12720
cctttgcttg tagaataaag aagtgcgcgg aagtgaccac agaagacccg ctctccatct   12780
tccacgaaat gggccattcc agtacttcct gcagtacaag aacctctcca tcatcttccg   12840
cacaggtgcc aacccagcct ttgaagaggc tgtgggggtct gtgatcaccc tctcggcctc   12900
ctcccacaag cacctgctca acataggcct gctcagcctc tagcaccagg actcaggtga   12960
tgaggatcaa gggcccagca ggagggcagc acaagcctgg gaccgcagct agggcttggt   13020
ggggtcaggg ctctcgggca aagctacggg aaggagatcc caggggttgc ctcttgactg   13080
ccctcaccct cttcccagag gatgaggtca atttcctgat gcatattgcc ctggagaaga   13140
tcgccttcat cccctttggc tacctgatgg acctgtttcg ctggaaggtc tttgacggca   13200
ccatctggaa ggacatctac aatcaggagt ggtggaacct caggtgggtt gggcaccatc   13260
ttccaccaga tgggccattt ccaggacttt ctgcagcaca agaacctctc taatcttcca   13320
cacaggcact gagcaggtct tttagccttt ctaggcttca gtctcctcat ctgtgaaaaa   13380
tggaccctgg tgatggcccc acctgctccc tgggtagctg ggaagctcac acaatgattg   13440
caactgagct tctctaatca cagaacactg accaccaggc aggccctccc aaacctccct   13500
cccttcctgg tgccaggcaa tggagtgtgc gggggcctga gcactttcct ttctggggaa   13560
agactcccca tgggagagag gcaggcccct aaaatgcacg catgcctgcc tcgggcttaa   13620
catccccaag ctgccatggg aacccaccag cagttgggag gcatcactct cgagtgaggg   13680
accccgtgt tacacctcat cactgacccc tggccatttg atgggataat aaatgcctgt    13740
gaccagggct cctccatatg tggcaggccg cggactgacc agcttcagtc tgctggtcat   13800
agtgtgattc ggggttgcca ggggggtgctc ctggctctgc aacaggctct tactttttt    13860
gtttgttttt tgagacaggg cctcgctctg tcactcaggc tggagtatag tggcatgatc   13920
acggctcact gcagccctga cctcccagcc tcaaccaatc ctccttcctc agcctcctga   13980
gtagctggga ctataggtgt gcgccactat actggctagt tttgtgtaat tttttttaa    14040
gagatggggt tcgccatgtt gcccaggttt aaactcctgg gctcaaggga tctgcctgcc   14100
taggcctccc aaaatgcggg gattacaggc atgagccact gtgcccggcc tcttatgttt   14160
aatttgaaca tttacaacca ccttgcgttg tgatcacttc aaagcgctca gctcacagaa   14220
gcaacagctg aagctcacag aggtcacaaa ccagcccgag gtcacacagc aaacgagcag   14280
gtgacagagc tgggagctcc tcccttgtc ctctcactcc cacccttgac ttcaggagca    14340
ggtctccctg gtgggcttgg cagagtcttg acctcgtgcc tctctaaggt caccctcata   14400
ggccatctga ggcacctgca ggaggcctct gtcagccctg cccatcaccc cagctgatgg   14460
aaccctgggg ctaagcagga ggggtggcaa ctccctgggc cttgaataag gccctgtcaa   14520
ctgggaggga agctcctgac actctgttga ccttggagat ggttcagagg ctccagtgag   14580
ccaatgatga agccttgttt ttgagacagg gtctcactct gttgcccagg ctggagtgca   14640
gtggtgcaat catggctcac tgcagccctg acctcctggg ctcaagcgat cctcctgcct   14700
cagcacctga gtagctggga ctacagatgc gcaccagaac acctggctca ttttttgtatt   14760
ttttgtgggg acagggtctc actttgttgc ccaggccggt ctcgaactcc tgggctcaag   14820
caatcctccc acatcagcct ctcaaagtgc tgggattaca ggtgtgagcc accacacctg   14880
gcctacttcc ttccatttta tagacatttt acaacaagac tcggagacaa tcagcaactt   14940
tcccacagtc gcacatctca gaggggcaaa aacagacctt caggttatca gggtgtgact   15000
gtgactggct ctgtgtcctg aggccaattc cctgatctcc aaaccttggt ttcctcatct   15060
gcaaaatggg aataatagta gtactgcccc acagtgatgt tactcttttt tcttctcaag   15120
acttcttact agatgaaatg accttgttta ttggtctata atctgtcccc cactgttagg   15180
atgcaagcag gggccttgcc tcccccgctc ccccactggt ccctccccca gagaccagga   15240
cggtgttgag tgcatgatgc gtgagtctat gtggagagcc agacatggtt ctgagcatag   15300
aggaagtgtt cagtcagtgt taactgctat tgttttactc tgattcccaa tcccatgtgt   15360
tttcatttat ttaatcaata aaaatgcatt aggtatcctc agcctgccaa gtccagtttt   15420
gatagacacg taggtgcttt gaaaagaaaa aggcaggcca ggtgcgngtg gctcacgcct   15480
ataatcccag ctacttggga agctgagaca agagacgcac ttgaacccag gatggggagg   15540
ttacagtgag ctgagatcac gccactgaac ttcagcctgg gcaacagggc aagactctga   15600
aaaaaaaaaa aaagaaaga agaaaagaag gaaaggaaga aaggagggag ggagggaggg   15660
```

```
agggaggggag ggagggaagg aaggaaggaa ggaaggaagg aaggaaggaa ggaaggaagg  15720
aaaagaaaga ggctctgaga acctgccaga caccaccacc aagccctctg cctttttccct  15780
gccaggttga aataccaggg cttgtgcccc gctattcctc actcagagga agactttgat  15840
ccaggtgcca agttccactt ttctgctggt gtgccctaca tacggtaaag gtctgggccc  15900
tgttagcagt gccagtccta ggagttgagg ggcatgggaa ctggggtgag gatttgcagg  15960
aaggccctag gtccaaatgt caccctgtac ccgtgcccat ctcttcctgt tgggctgcgc  16020
agccttctga ggcctctgac ctagaatcct ttgagctttt gcatcaggtc cagtgtagag  16080
ggcagagctg atgagaatat tctacaccat ccctgctgtc ccttggagga gagcaggtca  16140
gagggggca agggttgggg tgactgctgg ttcagaaagc tagagaagga gagcccccca  16200
gcactctagg gtcagcccaa gcactggccc tgcccaagga gcctccgctc aggcagtgac  16260
tgctgacatg gggccctcgt ggccactgca tgtcagagct gcctggtccc aagtggctct  16320
gagtttgcca ctcctggtct ccactcccca gcctgccctc acgtttctca accaggtact  16380
tcctcagtct ggtgctccag ttccagttcc acgaaacact gtgcaaagcc tcgggccaca  16440
tgggtccact gcaccagtgt gacatctaca actccaagat tgccgggaag ctcctggggt  16500
gagtgccctc tccttcattt gttctgggct cccccatctc cctttaagga agtcctgctc  16560
caggctccct ctccacacct gactacacta gacaccttga gcagagcttc attaagctta  16620
tattctagcg gaatttcttc ctcatgtcag actgcagtct ttcctacatt aatcagagcc  16680
catttcctct tgtgcagcct tctgtgttca gagacactgc ttaggctggg cgcagtggct  16740
catgcatgta atcccagcac tttgggaagt cgaggcaggc ggatcacctg agggcaggag  16800
ttcgaaacca gcctggccaa catagtgaaa ccccgtctct accaaaaata caaaaattag  16860
ccgggcgtga tggcaggcac ttgtaatccc agctacttga gaggctgagg caggagaatc  16920
acttgaatgt gggaggtgga tgttgcagtg agccgagact gcaccattgc actccagcct  16980
gggcaacaag gtgaaactcc atctcaaaaa aaaaaaaaag aaagaaagaa aagacaatgt  17040
ttagcccctc ccactaacac acacacacac acacatgcac acacatatgc cagtaagcca  17100
aactgtcccn agataggaag ccagcactgg ggttctacct caggcttcag ccttccngnn  17160
tccgaatccc ccttatcctt tccttacaag gtgctgacct accctctcag cagcacttgg  17220
cacacccttc agtgcagtct gttntctncc cacctcttct tggaggtgcc caaatccagt  17280
tcccaggctg atccaggtta ctttcacagt agcctcttgg catgcttctg gtcagcctgt  17340
ggtccacttt gacccttgag tctttttctc tgcacttggt gtttagctta ttcttttccat  17400
gcttacctat gtggcagtgg ttttttagtcc caaagcaaac cctgagggag taggggactg  17460
aactgaaaat gtgaagcatt tactactaca ggaggtgctc tctgatgagt actcttacag  17520
tgtttcatat tataataata gctcttaact ttgcaaagtg gatattatta tctgccttt  17580
acaaattatg aaactgaagg caagagaggt ggtgtcgttg tgcatcattc atctagcaag  17640
aagcaaagtc atgctttgaa accagaactg actccagaac acattatctt tcaccctggg  17700
aggacagagg tgacaaactt cagtttaata ggtttctcac caagttgtat gttccattgg  17760
cccaggattc ttgcactaat gggtttctat cacatcatgt ctataaatgg gtgcacttta  17820
ctgtttgaat ttgtaactga agtactggat atttaagtgt gagtaatgtc ttcattagaa  17880
aatagcagaa ccgctcttgt cttttagtgt attttttcaag aaaaaaggaa aggaaagaca  17940
tcaagcagtg gatcacaaca tttatagcac aagaaataac ttgtatataa gcatcaaaaa  18000
gattaagaat tttttaatat gaaaaatatt tgcagtgatt ttaaagtgct tttccagcaa  18060
tgttcttagg gactcctgag acacggttac tttatctact ggatcagtaa ggcacacaat  18120
taacaattaa caattaatgt ttatttacaa agtaaaggga aaacctgtgt aacatgagaa  18180
tttggcatga caaaatggag accattttgt atctgctgtt gtatcttgtc cgggttgcag  18240
acgtgcacta ttaaagtccc aagttaatag agcacaaacc cttctcgctc ctcccccatg  18300
tgccccctct ttttagatgt gtataactta aactcgatgg ctcaggaaaa ttccactaat  18360
tagaatcatg tacagtaccc caggtcgttg tccagatata caagtttgct aatgtagtta  18420
agcctggatt attaaacact tttcctaaat tattgtaaac agaacagctt agagaaaggt  18480
attctcagtc cttaatattg tatagtagtt tatgagcccc tctctaaata ttggtatttt  18540
tatattccag agatgtaccc aatagaaaaa attaaaaatt aatcagtatc taatttaata  18600
tccataagta tttttcctta gatttagtc acgtacagtg ggctatgtgg atgtcacttg  18660
tgcttcacca tagtttacca ctaggtgtca ctgtggctct gcactgcgct tgttttgtag  18720
caaagaacag cggcatcccc tcgggagaga ggagctgctt ccagggcaac aggcaagcgg  18780
gctcagaggt tcaggagaag gcaacagagg cctggaaggg gtcttcgtgc atctgtgcca  18840
gttgtgcaag acgaactctt tgaacactac atgctttgga cttcagccag gcagaggctg  18900
gaagaaggtt gaccagagct cccttgctct ggtagaggga tgggtacatg gagaagcccc  18960
ttcttcccca tgagcctccc tcctgtcagt tcctctcagc ctccagcttt tataactcca  19020
gaagcgtcac agttgggtgg tttgattcag agagagttat ttttctactg cagaaatgcc  19080
ttggacaaaa ccagtgctca ctgaatcttt gccacaaaat ggaataggct atcccagggg  19140
gcaagaggtg cccgcccctg tgcccagcct cctcttgatg ctcccagtgc ccagcagcct  19200
cgcacaccct gcctgtctgt tcctgggctg cccatttctc aagaaaccga cctgcaaagg  19260
cagccggctg ctgcttccac accgagggct gtgcggtcct gctgctcgct cactgggagg  19320
```

2588

```
tgcagctctt tctcctcttc ctctaggaat tccagaccga ccatctacca tgactaacaa    19380
caatgaacaa agggcttagg ggcaagagct acctgcaaag acgtgtcatg gaacccttca    19440
ccatgcaatg ccttgaactc agctctggct gctcccaaga aaaggtggct ggctgggggc    19500
tggacacaag cacaatgggg ctggtggagc cactgtgcag agctacttga ataatcactg    19560
ggttttcatc aactcctttt gtcatacaga ccactcaagg gctgaagtgt tggtaacctt    19620
catttcggtg tccaaagcct cacagcaggt gagccaccct gagatgcttg tggccacatg    19680
gtggccacag tcagagcttt gaaagtcagt accaaatgaa cgcataattg gacaccaaaa    19740
atcaagtgtt actttcatgt ttcctcaccc catcatctca ttgcctcctg ctgactctga    19800
taccgacgct gagctgactt gccaggctgc cgctggacgc gtagagatca ggccagcgcc    19860
gcgctcattt ttccaggtag acctactctg tggaacggaa gtgccctagc tgctttgttt    19920
ttgtagcact tgctggctga attttttctt tgctaatcgc taaccagaaa gtctggttag    19980
aggggctca actcaatccc tttggtcccc agcgccagac aagagttaat tctggaaaat    20040
tcagtacttg aatgtacctg ccttattgca taccaattta ctggggggaa aaaaaaagtt    20100
aagagatgcc ggctccagat ctccacttca ttcacaggtg attttggaaa tcctgtaagt    20160
tacacttcct gttctggttt tgtttttgttt tttgtttcct ttggctgatt cctgctgagt    20220
gaggccagtt cctcatcagg ctcagggcag gtgcctttc aggcgtggcc tcctttccat    20280
ctagcacagc atctttgtct ctgttctgtc tcctccaaat ccaagatgat tttaattagt    20340
acagacatgt acagtctaca attaaagagt gatttgtact aatatgattt tgattcttcc    20400
tcctctttgc tgtcctttca agacacttgc tggaaaaagc tttaatgcac ttagttttcc    20460
tttaggtttt ctatgactca gatgtaaagg actttctctg tacagtatat tatccaatgc    20520
atgtttgttc tctctcctga tatattgaac accacacagt tgtgaagccg tgcagtggga    20580
tgccccacac cccacagagg catctacccc tgtgtataag gaaagacatt ttcctttgct    20640
gtacttgctt gagcagtttt attgtctgta catgtgagct gtgtgagata gatgtgaaaa    20700
gttcaaatga atgcattttc ctgccccatg tatacagatt gtcatctgta caaggaactg    20760
tatgtatgaa agcaaatgta cttatttata aatggctaac acttggaaaa cca           20813


<210> 5665
<211> 521
<212> DNA
<213> Homo sapiens

<400> 5665
aaggtagctc ggactctacc tgtggctcag gcataccagg acaacctgta caggcagctg     60
tcccgagact ctcggcaagg gcagacatcc cctatcaaac caaagagacc gttcgtggag    120
tctaatgttt aaaagacgtt ttgttggagt gagacccata tgttttcact gcacattttc    180
aggcttggtt tccacattcg aggtagttct ctggcttaat ttctcatgta gtttctgtgt    240
ggtgttcaga ggtggcagcc cacatgctga aatcctttgc atgcagccga ctgggaagcg    300
gcctcccggg agccaggact tcagtttctc ttgtctgtgc ccagccacat gctctctccc    360
tctcttcaga tgccaacgag gagattttcg tgctgtgtgc tttaacccag ggagatcaga    420
cacactggtc agctttttcc aggagacaat cgctttcact gatgttcttg ttgtgtaatt    480
gtcttttccc tttttttaaaa aataaggtgt tcttgttcgt t                       521


<210> 5666
<211> 4269
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (727)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (1178)
<223> n equals a,t,g, or c

<220>
<221> SITE
```

<400> 5666

```
gccaagtccc ttatcactgg cacttgattt cctactgggc tagaacctta agctgtttgg    60
tgaaagaagg gcacagaagt cacacaaaga gagcaacaga tgcttgcaca gcagctcaca   120
ctgccctggg acagctccag taaagagcag tcctgtgttc aggtcctacc ttctagagca   180
ggatctaaca caggacacca gttgaatagc ttatgctcta gataagtaca gttcttggta   240
tatagctagt gttccagaaa tattagttgc atgaatgaat gacaggttta ggctgtaaga   300
ccagcatcag accatggagt gcctggatac aactacattt ctatggccaa ttaaaaaaat   360
aatcctggga ttggagtagt agagctaagc ctagggactt gaaagttagt ccagaggatc   420
ccaacagctg gacacaaact caggaagact caagagccat acaacagcaa tgcagcaacc   480
aataatcacc gttattatta agagcagttt ctagtacaga gcgcctcagg gcacttacaa   540
tccccacaga ggccagctac ccaacatcag agtctgacca gctgggtggt cctgccctgc   600
atccgagagg gtgtcgggac actcatccag atggctctga dacagcagca gagctgacaa   660
ggaggcccca caagtgagat tcctttggct tcaaggtcgc aagtcctgtc cttgggcctc   720
ctggctngct gagcctccca ccggctttac cctcagagat tgctgcagaa gcctgtgtgc   780
tggaatgggc tgccacattt ctaggaagga acccgggggc acatgtagcc tggttattca   840
atgttatcat agacgtgaat cacatcctcg tggttgctga gagcctgaat gagatgtgcg   900
gcctgttcca ggtcgggctc agccagctgc acctttgagt tggggatgaa ctctagtgca   960
caggacacag aacacaggcc cagggagtcc agcttcttcc tcacttggtg cagtgaagag  1020
gcatcacaaa taaactaggg ataaaggaaa gtcaggaggt gaggagccag gaggtaatga  1080
gacaaagcca cacaggacct tgcaaagtcc tgaatgtcag tactggaatg gatcactggg  1140
tttgagctct tcactggcag ggacatcgtt ttcaatgntt ttgactcttt ctttctcata  1200
gtcctcacta gagtcnggtc ctattcagta ttcacttaat aaatgtttgt acaatatgtg  1260
aactgtctca cctataccct ggggcacatg aaggaagaaa ccaagaggca tgcataaggc  1320
atctatcagg gtcctcccgg aagcccacca aacacccatg tttcatgct tactttaaaa  1380
acgttccttt cttcttcatc ttcagtttcc ttgacatcct cagctcctgc ttcgattgcc  1440
atctccaggg cacgctctag gttcacagcc ttcttctctc tgtcctccac ttcaaccaca  1500
atcacccct ttttgtcaaa agagtgacga gctcctacag ccatcactcc tctgacaggg  1560
aaggaaacag gctggcatga gtggatgcct ctagaagctc agcctccata aagctcatca  1620
ttctatcact gtctctttct tacccagtct atgaagtaca cacagacatg gagcagatcg  1680
catcctcaag gagaaaatgc agctgctgct gggtaaggga acagcccaag aatgtcccca  1740
cgctcgattt tctgccctga ttgcagttgg gaggaagcag acttagctga taatttcctg  1800
tgccattaag atgccagtcc tggtggagca ttttaagact taggcattat atggctacag  1860
atggggataa taggacaaag atccccttct acatccgatg aacaagtctt tgggatcctg  1920
ctagtagaaa ctacattaag ggaaagtcaa ttaactcatt agattctgct aaggagcaag  ·1980
tgtgcttaaa acctgaaaca tggccaggca tggtggctcc cagcactttg ggaggctgag  2040
gcaggtggat cacctgagat caggagttcg agaccagtct ggccaacatg atgaaaccct  2100
gtcacctcta ctaaaaatac aaaaattagc tgggcatggc tgtgggtatc tttaatccca  2160
gctactcagg aggctgaggc aggagaatca cttgaaccca gaaagcagag gttgcagtga  2220
gccaagatca tgccattgca ctccagcctg ggcgacaaga gtgagactcc gtctcaaaaa  2280
acaaaaaaac aaaaaacaaa accctgaaac actagcagag atcaacagta cttgccttgc  2340
agagaattgg aacataaagg ctctgtcccc taccactcct cccagacgca cacttaccca  2400
ttcttattca ggatatgtct aatgtctgct tggcacttgt ggctactgtt agataatgcc  2460
tcgatgagca gagaagagcc accagggcct cgaccctcat acagcaaata agtgtccttg  2520
gatttctgca ataaacaaca caagcacatt ttcctgtttc ccaattcctt cccacatgtc  2580
agcccagaac tacaagtatc gcaaaactaa ctccatggga tgggctctct aggctggagc  2640
ctgagctctc aatctttatt tttgtcccca ccctctaacc aacttttgag gtaacaggaa  2700
gtactacccc taacttggaa ggagtctgtt tctccggtcc ctgaacaatc catcagccat  2760
ctctcagctt tgcttcctac catcectaac caaatgccac atctagtccc tacccaatcc  2820
cactcagact catcctccta cacccccatc ctgtaagaaa cccaccggtc aagtctcaag  2880
gtccctaccc tgggctgctg agtactgctg tgaaatatca cacacctagg ccttgtcgta  2940
agagctgctg aaaacagcat ggtctcaaaa ttgaaacaat taatccagag ctctagggac  3000
taatctcttc tggaccttcc atgcccctac tcatcccttg tccatgtatt caatattccc  3060
cactccaagc accctgtcct gcaactttcc aggaattctc aactcataac ttctcccttc  3120
ctctttcaca aaggtaaaaa gggccactag gtggggaaaa tagttgctgt ctccaccacc  3180
ttctctgcac catggcctac atgaaggcaa taagcataac ggttagagca caggctctaa  3240
agtctgacta tctggtttca agtctgtcat tttctatgcg acttgagtca actcacctaa  3300
cattcctgtg cctcagtttc tacttacggt ggtttttgagg attcgatgag ataacacaca  3360
tagagttttt atccatgctt agcctgcagg aagcactcaa taattttgag ctattaagat  3420
```

```
aactattact tcctcagagc ctccctacct gccccagaga aaggtgtacc cttacgtgga    3480
ctctatatac ctgcccctcc caccatctct atcacccca  tcctctccct ttctactggc    3540
ttttctcctt tagggcataa acatctgaaa aacaaacact tcctccacct aacgtaaggg    3600
ctttctccca cactgcccct tctttctata atacctcatc tccctacaac ttggctgagc    3660
agtcccggtc ttgactgtat ggccctgcat actgcctatg catcctactc ccagttgtgc    3720
tcctagaacc aatgaccaag gacggtgagc tctcagaaga ctctaggctg agggcgtcaa    3780
ctacattgct accgttctct ctgataattt ttttttttt  ttttgagaca gagtctcgct    3840
ctgtcgccca ggctggagtg cagtggtgca atctcggctc accgcaatct ctacctcctg    3900
ggttcaagcg atcctccacc tcagcctccc cagtagctgg gattacaagc atatgccacc    3960
acgcccagct aattttgta  tttttagtag agatggagtt tcaccatgct ggccaggctg    4020
gtctccaaac tcctggcctc aagtgatcca cccaccttag cctcccaaag tgctgggatt    4080
atagtcgtga gccactgcac ttggcccctc tgataattta cagtgtgttt gttggccatc    4140
cagacatgag cccggtagag gctgtgatca ataaaaagca tgtcaaacag tacacacctc    4200
cattttcagt gctgtctcaa tcgttgactt gggcatatgt ttgctgcgac acacctctaa    4260
gatattggc                                                            4269


<210> 5667
<211> 521
<212> DNA
<213> Homo sapiens


<400> 5667
aaggtagctc ggactctacc tgtggctcag gcataccagg acaacctgta caggcagctg     60
tcccgagact ctcggcaagg gcagacatcc cctatcaaac caaagagacc gttcgtggag    120
tctaatgttt aaaagacgtt ttgttggagt gagacccata tgttttcact gcacattttc    180
aggcttggtt tccacattcg aggtagttct ctggcttaat ttctcatgta gtttctgtgt    240
ggtgttcaga ggtggcagcc cacatgctga aatcctttgc atgcagccga ctgggaagcg    300
gcctcccggg agccaggact tcagtttctc ttgtctgtgc ccagccacat gctctctccc    360
tctcttcaga tgccaacgag gagattttcg tgctgtgtgc tttaacccag ggagatcaga    420
cacactggtc agctttttcc aggagacaat cgctttcact gatgttcttg ttgtgtaatt    480
gtcttttttcc tttttttaaaa aataaggtgt tcttgttcgt t                       521


<210> 5668
<211> 6439
<212> DNA
<213> Homo sapiens


<400> 5668
ccgattttt  ggagaccaca catcaaacct cagtatattt ggatgcaaat atcgctacct     60
cccagagaga cctcatttaa ggagattagt gcgagggtca gtctgtggtg agtgtctgac    120
atacttatgg gtgtcttccc tgggaattaa gtagtgaaaa tagaacttgg aaatgtgcag    180
ccatggtaat tcagagcacc tgccagtgtt ca gaggaggata ttctctcacc             240
ctttaagaat aaaatttaaa acttaaattt tgttaccagg acactactta tatgagcaag    300
tagtaatttt gtttgaaaaa gcagcttatt aatcacacgc agaaatctga agttatttgc    360
ctcttaaatt tctgaaaccc tgtcgtaagc cacttaacaa gaggggcagt gtcatgtata    420
ttttgtaat  ggacaatatc cagcagcagg tcgtacacat atcctccact cattcatgga    480
ggacctgcaa tacagtacag catggagcgt agcctaggaa ggcaggggaa aaaatctacc    540
ttttagagcc ctgtaataga gttccattat gtctatataa gtgataagtt gcatatattt    600
ttcattgttt taattattaa taggtaacag ttaatataat aagtatcaaa tgccctcagt    660
gcatacaaac ccaagtttaa ttatccaagt gaaaatgctt ttgtggattg acttttacc     720
ccctcttcct caacaacaca tagtagcctc atacacaacc ccttcccaca ctggtacaca    780
agtatgcaaa tagaaacaca gacacctgcc cataaacaaa tcaccctggc caaatgccac    840
tgcctttggg taatgcaggg ttcttcggcg gaatatttct tcttctgctc ctctggaatg    900
tattccattc cctgctgctc tggaatgtaa ccatgtgaga tttcttcccc tttttcatca    960
catggatgtc tgttagaatt cctttctgg  ccgtgtttct catgtgtagg caatacttt     1020
tatcatcttc cacatttccg ttttccttcc tactttgcc  tagttgcttt atgaaaatct    1080
ttatatctct ccttagccct tggtcacttc atgactgttg tgaaccattt tcctccttag    1140
aagcatatga tacctgatca gaacaaagct gatgttagtg atagatttct atcaggtaaa    1200
agatagaaca tgtatacgca aatgcacttt cacatatgga aaccaatgcc gtcatttct     1260
```

2591

```
aaaatctatg tgatctctat aaaaatattc ttcctgaggt taatggaaca taattttcca    1320
cagccaatag cattcaatag tcaagactgc ttttaatgat tttccagtgc gtgccgcttc    1380
ttaatttgca aatatggtgg atgttataat tatataacca atatgtatgt attagttaaa    1440
cagatattgg agggataact agggaatcta accttaacct ctaataccat gagaaaatca    1500
attgcaaatt aagttctgag atagaagctg tttgcaaatc tgtatatgga gagagcaaca    1560
tgaaaacaca aaatcactgt atttttgca ttgttatttt attttctact tcagtgccac     1620
ctttaatttg gtcgtggcag tgtgtttccg tccattcttt attttaaata gagaagtcat    1680
ttatttggct catggttctg gaggctgagc agtccaagat gtagtggctg catctggtga    1740
gggcctttgt gctgcaccat agcatggcag aagggccagc aagcccacga gacacagaaa    1800
atgggagcca aacttaccct tttgtcagga acccactccc ttgataacta acacgctcct    1860
atgatagtgg tattaatcca gtcataaggg ctctgctctc aagatctaat cacctcttaa    1920
aggcccaacc tcccaacctc cttttggcc tgtcttttgt gtgtgcaggc gcatgtgtgc      1980
aaataaaatc acatcaggtt aagcttgtca aagtagggag cagctggctt taagataaac    2040
tctctcatcc acacatattt tccccacccc aagcacagct gcctcttaac tgctgttgga    2100
ccataactcc aagtgaagtg gtcctccctc ccccatctcc acaaatagca ggaaaagtaa    2160
tgttgtaatt tacaaagtta cttactccct gccatttcag agagaagatg gagtatagga    2220
aagccctccc acccactgtc cttgtgtgat gtgacacaac ttgctccctc agtcttggaa    2280
tacagcctca tgtggtcctt ggccagaggc agagaaaggg ccttcatctc tctcacagct    2340
gaagggtggg aaacatggtc ttcattccgt gtaaccacgt gctcagctag agatcagagg    2400
ttctgctcat aaattataaa ggagaagaga gatttgggga tgattagcag cctctgacat    2460
aggggcatct cccccagtga ggcgtgggca gattattaaa ggaatggtac tgggaataaa    2520
agtggctgag gataaatttt aaattctcat attacttctt acaaaaattc taagttttaa    2580
atcaagtcgt ataatttta agaataggtc ttcaattgat ttctagatgg caaataattt     2640
atataaacaa aaacaatgga gccttctcca aaaatgaata ctcaattaaa aaaaaaaaa     2700
aagacaagcc tggagccaga attgaagaaa tacaaatagc caatacatat gttcaaaaat    2760
attcagtgtt actagctgtc agagaaatgt aaattggcag tctcaaaatg agatactttg    2820
agtattatta acttgataag acatctgcta actattgatt agcaaatgtt ttatcaagtt    2880
aatacttaat attggacttt catacttaat gaattgaaat tttgtacaat tcttttgcaa    2940
agaaatttga tactaatgtg aaggccattt taaaacatga taaatctaga taaactgaaa    3000
atgggttatg tgcaagtata atttaaaata gggaaaagaa acaaaaaatt aagtatagga    3060
atatttaaat aaaatacgat atatggatat gatagcaatt aaaaatgatg ttttagagca    3120
atgttactaa cctaggaata agagatagta tgcctagtcc cttaaaacag tttcaaaagt    3180
agatgtaaac atgttttgaa catggattac ataattggaa taagtttatt tcctatctcg    3240
ttccttcaat tctgtgatat ttgagaggaa aaagaaaatc aatgctgtta cttttttagtt   3300
atgtttattt actattagga aaatatactg ataattattt aaaaaggaaa tatgaatgaa    3360
cagactgagc tatgtgcata ggagaaaaac acattctttt aaaatatatg tgcttatata    3420
ttctaaactc ttaagcatca ctttaagagt gtactaaacg taattattca atgggactta    3480
ttacttactt ggattctgtc attggcaaaa aatataaata aaacccatat ctagacatgg    3540
tgctaatgga atggagatct tttttaaatta gatatttaaa acagtgttgt atacatgtct   3600
ggtcatctgg ttccaaagat catttcttaa gaataaaaaa gttagtatgt tttgacaaac    3660
ttccaacaaa tggctgtatt agtttctttt ttagtgtaat tgattattct aaattactgt    3720
cctttaattt atagaatgat attgctgttt catccttaaa ttgccttgtg agtctactgc    3780
aaagtttctc tctttctcat ctcttattgc atttgagttg tgcggccctg aagctgtgtc    3840
acatgccgta aggtttaaaa tacaataaca acatgtattt actaacctct tttttgtgcc    3900
tgtgtctttc aaagtcagtg ggattctgat gttggactct gctatgtata cttatggcta    3960
gagtttatca tcactgctta gtgattcatt tagaaaagaa aatgctggct gataccactt     4020
gacatcctta ccagcacttt gccttttat tttataagtg cttccttttt caattcgtta     4080
aaatgattca cttgagtaac tttcaacgta ctaggtattt attcatagtt ttctctaaca    4140
tcttgaaacg tcccattttt agttcagtct gttaggcgtt catattatta gtttctcttttg    4200
gacccaggat gtaaataaac cacttcttta gatgtgggct tggacagaag ccctctgtag    4260
gacctaccag ctctccatgt tatgaggtaa caagattttc tcctaccaac tcaaaatgtg    4320
ccacttcttt cttaatcttt tagcattgcg aacattgaaa atggaaagga tcttaaggaa    4380
aagcacaaag atgaactgtc ctggtagaat acagtaagcc agttgctttg gaatgttttt    4440
ggttagaaag ataagtgat ttatgtttga tgcatgtgct caggactttg gtgaagttac      4500
taaacttaca tgtgtatatc tgttctatac ctaatcctga tacatttctt agatatatac    4560
agccttaagt gtaatcagac tacttaaaaa ataatataca ctgtggtatt taaaaagcat    4620
cactgtaatt atttggtagg ttagttttaa gactccttaa ataattttgc cttttgtttt    4680
ccagctggaa aattattcat tgcacctcta attatggttt tgggattggc actagggcc     4740
atagcggttg taatcggtaa gaaacacttc atgcatctga gattagaatt atctgagggc    4800
catagagaga atacgagtgt aaatgtaata atatgaatca gttattaagt ggacataatt    4860
tatgttgtat gcctgcttta gatagattac cagcatatca tttaaaaggt cagaggagcg    4920
```

```
tgtttcctgt aggatatgtt agtatgaatt tttcagtcta tgaacactgt gattcatgta    4980
ccttataaag cattattaac ccttttataa cacaaagcta atagaattag tatccttagg    5040
gaaaaaggca agtggaatag aacccaaatt ttctaattct gagttcaggt tgaagcatca    5100
aggaaaagaa gctctgcacc ttatgtgttt catttggtcc agtaaaagat gccataggta    5160
caaacagata atgtcagtgt gtacaggaac atatacccaa catacacttg agcactgaca    5220
aatagaaaac cttgcagtga tttgcatagt tttatttatg caagtatatt aaaatgtgta    5280
ttttaaagca gtggttctca gactctagca tgctttagaa tatcctcaag ggctggataa    5340
aacacacatt gctggtttcg gtctgcagtt tctgactcgg tatatgggaa aagtccattg    5400
attttattt ttaaaaagtt cccaggtgat gctcatgcag ctggttcagg gaccatactt    5460
tgagaactat tgctttagta atttaagct aaatgctata gataaaggct gctttgatca    5520
ttgttccata tattagatgg ggtttttttg ctaaataaaa tgatttcgt atgtcaactt    5580
gggtttagca agtaataaat gtgcaggaca gatagaatta taaagtatct gacatttaag    5640
ttcttgcaat gtgagttagg acattatgta atagatatta ttatctgtat tatacagttg    5700
aggaaattaa gacttactgg aacctcataa gtggtagaac caggaatcaa acccaacatt    5760
tggctccaca gcctgtgttg ttaagtgata tgctatactg cctgaaacaa gtgtgagtat    5820
catagtgtgc aaatgatatg actgtggaca ataaagaaga tttaaaccaa agttttgata    5880
tttggataga aatcattatt attaaactgg tatcactgag ggtgctaaag gggagaaaag    5940
ctaaagggaa atattaaaga atgaaatatt gaagaagtaa atacatttca tagcatagat    6000
gtcttcttct ttgtatgttc gtacactgca aataaataaa catagacatt ttaaaatagg    6060
aaaacctaaa tgcctctcat cctaactaac tttaatttt tcttatccct aggtttattt    6120
gtatttccta tctattgcct ttgtaaaaaa cagagaaac gatcacggac aggtatgcac    6180
tggtaacatg cagatgattt catccagcta agctggttgg agtaggagcg ataccaaagg    6240
gtacacccat ctgtgagtca catcttgaaa aacactgaga ggaaccttct accatctcat    6300
ctcccagtga ttctccgtgg gccacaatgc ctctagctat ggtgcactcc caacatggta    6360
tcctgtcctt tccctaaaca aattgctgct gcttttaaaa aatggtcact ttcataaact    6420
ataaacatct atatcataa                                                 6439


<210> 5669
<211> 6439
<212> DNA
<213> Homo sapiens

<400> 5669
ccgattttt ggagaccaca catcaaacct cagtatattt ggatgcaaat atcgctacct      60
cccagagaga cctcatttaa ggagattagt gcgagggtca gtctgtggtg agtgtctgac     120
atacttatgg gtgtcttccc tgggaattaa gtagtgaaaa tagaacttgg aaatgtgcag     180
ccatggtaat tcagagcacc tgccatgtgc ccagtgttca gaggaggata ttctctcacc     240
ctttaagaat aaaatttaaa acttaaattt tgttaccagg acactactta tatgagcaag     300
tagtaatttt gtttgaaaaa gcagcttatt aatcacacgc agaaatctga agttatttgc     360
ctcttaaatt tctgaaaccc tgtcgtaagc cacttaacaa gaggggcagt gtcatgtata     420
ttttttgtaat ggacaatatc cagcagcagg tcgtacacat atcctccact cattcacgga    480
ggacctgcaa tacagtacag catggagcgt agcctaggaa ggcaggggaa aaaatctacc     540
ttttagagcc ctgtaataga gttccattat gtctatataa gtgataagtt gcatatattt     600
ttcattgttt taattattaa taggtaacag ttaatataat aagtatcaaa tgccctcagt     660
gcatacaaac ccaagtttaa ttatccaagt gaaaatgctt ttgtggattg acttttttacc    720
ccctcttcct caacaacaca tagtagcctc atacacaacc ccttcccaca ctggtacaca     780
agtatgcaaa tagaaacaca gacacctgcc cataaacaaa tcaccctggc caaatgccac     840
tgcctttggg taatgcaggg ttcttcggcg gaatatttct tcttctgctc ctctggaatg     900
tattccattc cctgctgctc tggaatgtaa ccatgtgaga tttcttcccc tttttcatca     960
catggatgtc tgttagaatt ccttttctgg ccgtgtttct catgtgtagg caatacttttt   1020
tatcatcttc cacatttccg tttttccttcc tacttttgcc tagttgcttt atgaaaatct    1080
ttatatctct ccttagccct tggtcacttc atgactgttg tgaaccattt tccttcttag    1140
aagcatatga tacctgatca gaacaaagct gatgttagtg atagatttct atcaggtaaa    1200
agatagaaca tgtatacgca aatgcacttt cacatatgga aaccaatgcc gtcattttct    1260
aaaatctatg tgatctctat aaaaatattc ttcctgaggt taatggaaca taattttcca    1320
cagccaatag cattcaatag tcaagactgc ttttaatgat tttccagtgc gtgccgcttc    1380
ttaatttgca aatatggtgg atgttataat tatataacca atatgtatgt attagttaaa    1440
cagatattgg agggataact agggaatcta accttaacct ctaataccat gagaaaatca    1500
attgcaaatt aagttctgag atagaagctg tttgcaaatc tgtatatgga gagagcaaca    1560
tgaaaacaca aaatcactgt atttttgca ttgttatttt attttctact tcagtgccac     1620
```

```
ctttaatttg gtcgtggcag tgtgtttccg tccattcttt attttaaata gagaagtcat    1680
ttatttggct tatggttctg gaggctgagc agtccaagat gtagtggctg catctggtga    1740
gggcctttgt gctgcaccat agcatggcag aagggccagc aagcccacga gacagagaaa    1800
atgggagcca aacttaccct tttgtcagga acccactccc ttgataacta acacgctcct    1860
atgatagtgg tattaatcca gtcataaggg ctctgctctc aagatctaat cacctcttaa    1920
aggcccaacc tcccaacctc cttttttggcc tgtcttttgt gtgtgcaggc gcatgtgtgc    1980
aaataaaatc acatcaggtt aagcttgtca aagtagggag cagctggctt taagataaac    2040
tctctcatcc acacatattt tccccacccc aagcacagct gcctcttaac tgctgttgga    2100
ccataactcc aagtgaagtg gtcctccctc ccccatctcc acaaatagca ggaaaagtaa    2160
tgttgtaatt tacaaagtta cttactccct gccatttcag agagaagatg gagtatagga    2220
aagccctccc acccactgtc cttgtgtgat gtgacacaac ttgctccctc agtcttggaa    2280
tacagcctca tgtggtcctt ggccagaggc agagaaaggg ccttcatctc tctcacagct    2340
gaagggtggg aaacatggtc ttcattccgt gtaaccacgt gctcagctag agatcagagg    2400
ttctgctcat aaattataaa ggagaagaga gatttgggga tgattagcag cctctgacat    2460
aggggcatct cccccagtga ggcgtgggca gattattaaa ggaatggtac tgggaataaa    2520
agtggctgag gataaatttt aaattctcat attacttctt acaaaaattc taagtttcaa    2580
atcaagtcgt ataattttta agaataggtc ttcaattgat ttctagatgg caaataattt    2640
atataaacaa aaacaatgga gccttctcca aaaatgaata ctcaattaaa aaaaaaaaaa    2700
aagacaagcc tggagccaga attgaagaaa tacaaatagc caatacatat gttcaaaaat    2760
attcagtgtt actagctgtc agagaaatgt aaattggcag tctcaaaatg agatactttg    2820
agtattatta acttgataag acatctgcta actattgatt agcaaatgtt ttatcaagtt    2880
aatacttaat attggacttt catacttaat gaattgaaat tttgtacaat tcttttgcaa    2940
agaaatttga tactaatgtg aaggccattt taaaacatga taaatctaga taaactgaaa    3000
atgggttatg tgcaagtata atttaaaata gggaaaagaa gcaaaaaatt aagtatagga    3060
atatttaaat aaaatacgat atatggatat gatagcaatt aaaaatgatg ttttagagca    3120
atgttactaa cctaggtata agagatagta tgcctagtcc cttaaaacag tttcaaaagt    3180
agatgtaaac atgtttgaa catggattac ataattggaa taagtttatt tcctatctcg    3240
ttccttcaat tctgtgatat ttgagaggaa aaagaaaatc aatgctgtta ctttttagtt    3300
atgtttattt actattagga aaatatactg ataattattt aaaaaggaaa tatgaatgaa    3360
cagactgagc tatgtgcata ggagaaaaac acattctttt aaaatatatg tgcttatata    3420
ttctaaactc ttaagcatca ctttaagagt gtactaaacg taattattca atgggactta    3480
ttacttactt ggattctgtc attggcaaaa aatataaata aaacccatat ctagacatgg    3540
tgctaatgga atggagatct tttaaaatta gatatttaaa acagtgttgt atacatgtct    3600
ggtcatctgg ttccaaagat catttcttaa gaataaaaaa gttagtatgt tttgacaaac    3660
ttccaataaa tggctgtatt agtttctttt ttagtgtaat tgattattct aaattactgt    3720
cctttaattt atagaatgat attgctgttt catccttaaa ttgccttgtg agtctactgc    3780
aaagtttctc tctttctcat ctcttattgc atttgagttg tgcggccctg aagctgtgtc    3840
acatgccgta aggtttaaaa tacaataaca acatgtattt actaacctct ttttgtgcc    3900
tgtgtctttc aaagtcagtg ggattctgat gttggactct gctatgtata cttatggcta    3960
gagtttatca tcactgctta gtgattcatt tagaaaagaa aatgctggct gataccactt    4020
gacatcctta ccagcacttt gcctttttat tttataagtg cttccttttt caattcgtta    4080
aaatgattca cttgagtaac tttcaacgta ctaggtattt attcatagtt ttctctaaca    4140
tcttgaaacg tcccattttt agttcagtct gttaggcgtt catattatta gttttctttg    4200
gacccaggat gtaaataaac cacttcttta gatgtgggct tggacagaag ccctctgtag    4260
gacctaccag ctctccatgt tatgaggtaa caagattttc tcctaccaac tcaaaatgtg    4320
ccacttcttt cttaatcttt tagcattgcg aacattgaaa atggaaagga tcttaaggaa    4380
aagcacaaag atgaactgtc ctggtagaat acagtaagcc agttgctttg gaatgtttt    4440
ggttagaaag gataagtgat ttatgtttga tgcatgtgct caggactttg gtgaagttac    4500
taaacttaca tgtgtatatc tgttctatac ctaatcctga tacatttctt agatatatac    4560
agccttaagt gtaatcagac tacttaaaaa ataatataca ctgtggtatt taaaaagcat    4620
cactgtaatt atttggtagg ttagtttaa gactccttaa ataattttgc cttttgtttt    4680
ccagctggaa aattattcat tgcacctcta attatggttt tgggattggc actaggggcc    4740
atagcggttg taatcggtaa gaaacacttc atgcatctga gattagaatt atctgagggc    4800
catagagaga atatgagtgt aaatgtaata atatgaatca gttattaagt ggacataatt    4860
tatgttgtat gcctgcttta gatagattac cagcatatca tttaaaaggt cagaggagcg    4920
tgtttcctgt aggatatgtt agtatgaatt tttcagtcta tgaacactgt gattcatgta    4980
tcttataaag cattattaac cctttataa cacaaagcta atagaattag tatccttagg    5040
gaaaaaggca agtggaatag aacccaaatt ttctaattct gagttcaggt tgaagcatca    5100
aggaaaagaa gttctgcacc ttatgtgttt catttggtcc agtaaaagat gccataggta    5160
caaacagata atgtcagtgt gtacaggaac atatacccaa catacacttg agcactgaca    5220
aatagaaaac cttgcagtga tttgcatagt tttatttatg caagtatatt aaaatgtgta    5280
```

2594

```
ttttaaagca gtggttctca gactctagca tgctttagaa tatcctcaag ggctggataa    5340
aacacacatt gctggtttcg gtctgcagtt tctgactcgg tatatgggaa aagtccattg    5400
attttttattt ttaaaaagtt cccaggtgat gctcatgcag ctggttcagg gaccatactt    5460
tgagaactat tgctttagta attttaagct aaatgctata gataaaggct gctttgatca    5520
ttgttccata tattagatgg ggttttttttg ctaaataaaa tgattttcgt atgtcaactt    5580
gggtttagca agtaataaat gtgcaggaca gatagaatta taaagtatct gacatttaag    5640
ttcttgcaat gtgagttagg acattatgta atagatatta ttatctgtat tatacagttg    5700
aggaaattaa gacttactgg aacctcataa gtggtagaac caggaatcaa acccaacatt    5760
tggctccaca gcctgtgttg ttaagtgata tgctatactg cctgaaacaa gtgtgagtat    5820
catagtgtgc aaatgatatg actgtggaca ataaagaaga tttaaaccaa agttttgata    5880
tttggataga aatcattatt attaaactgg tatcactgag ggtgctaaag gggagaaaag    5940
ctaaagggaa atattaaaga atgaaatact gaagaagtaa atacatttca tagcatagat    6000
gtcttcttct ttgtatgttt gtacattgca aataaataaa catagacatt ttaaaatagg    6060
aaaacctaaa tgcctctcat cctaactaac tttaattttt tcttatccct aggtttattt    6120
gtatttccta tctattgcct ttgtaaaaaa cagagaaaac gatcacggac aggtatgcac    6180
tggtaacatg cagatgattt catccagcta agctggttgg agtaggagcg ataccaaagg    6240
gtacacccat ctgtgagtca catcttgaaa aacactgaga ggaaccttct accatctcat    6300
ctcccagtga ttctccgtgg gccacaatgc ctctagctat ggtgcactcc caacatggta    6360
tcctgtcctt tccctaaaca aattgctgct gctttttaaaa aatggtcact ttcataaact    6420
ataaacatct atatcataa                                                  6439
```

<210> 5670
<211> 535
<212> DNA
<213> Homo sapiens

<400> 5670
```
gacctttgtg gttcttggaa gaagatattt taagaaccag ttatcctaag aattctgagc     60
acgcctcttc tgagaattgc ttggactgtc tttgaactct gcacctcctt ccaggccatc    120
ttgtgagact tggtgttaat agctgaagtc ctatctgtac caacaagcaa ggccactttt    180
cagaagataa gagttcactg aatgcaccta ttataatctg tggccccagc agtataattc    240
ttttatcttt caaatgttat aattgcaaaa aatctcaatg tccaaaaggg aatgagtgaa    300
actaaattaa tgagaagaat attaagttac tgaagtgtat atgcgtaggg gcgtgaatgt    360
gtgtgtatat aaatatgtat taaaactagg cccagtaacc ttgtacttac ccagttccat    420
gccgctacac tattttttcca catttttcata gacctattga aagatgatgg ctcctttgtg    480
gacataattt agcaatgtat taaattaaag tcaatgtaga caacaggcca tttcg          535
```

<210> 5671
<211> 535
<212> DNA
<213> Homo sapiens

<400> 5671
```
gacctttgtg gttcttggaa gaagatattt taagaaccag ttatcctaag aattctgagc     60
acgcctcttc tgagaattgc ttggactgtc tttgaactct gcacctcctt ccaggccatc    120
ttgtgagact tggtgttaat agctgaagtc ctatctgtac caacaagcaa ggccactttt    180
cagaagataa gagttcactg aatgcaccta ttataatctg tggccccagc agtataattc    240
ttttatcttt caaatgttat aattgcaaaa aatctcaatg tccaaaaggg aatgagtgaa    300
actaaattaa tgagaagaat attaagttac tgaagtgtat atgcgtaggg gcgtgaatgt    360
gtgtgtatat aaatatgtat taaaactagg cccagtaacc ttgtacttac ccagttccat    420
gccgctacac tattttttcca catttttcata gacctattga aagatgatgg ctcctttgtg    480
gacataattt agcaatgtat taaattaaag tcaatgtaga caacaggcca tttcg          535
```

<210> 5672
<211> 2026
<212> DNA
<213> Homo sapiens

<400> 5672

```
ggaatttgac tggggaggga tgtacagtga gcatcagttg ttacctatga tcagggaagg      60
atccaggttt tgtgggggcct gatgcttaag gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt     120
gtgggagtta ccctctaaaa aaaggacttt acaataaatc tgcctctcac tggttattgt     180
aagagtgtat gtgatgcact gagaagtcat ttctgaagat acgtggggcg ctctttgtag     240
agaagtgaaa ataacattca ctatgacaat agctaacatt tatcgagccc ttaccatatg     300
ccaggcactc ggggcaagcat ttgcaggctt ttctcattga ttcctcacaa tcagcctagg     360
atacagatgc tgcctattag tctcatttta tggctgagga agcagaggct cagaggggtt     420
aagtcatttg cccaaggcca cacagctagt atatgataga gtcagggttc aagcatatgg     480
agcaaaacag gacttgtttc ctatggttta agcattccct acatagtgat ctctcactgt     540
cataattaca tgcctactat gttctcttca gtaaagatct cttattttta gttgactaga     600
ggaagggcaa tatgagcaga aaatttttct tgttttgggg atgaggtctc actcttttc     660
caaggctgga gtgtagttgt gcaatcatag ctcagtgtag cctggaattc ttggactcaa     720
gcaatcctgc tgcttcatcc tcccaagtag ctggaactac aagtgtgcac catcacatct     780
aactaatttt tgtagagatg gggtctggct atattgccca agctgatctg aagctcctgg     840
cttcaagcaa tcctcctgcc ttggcctccc aaactgttgg gattacagtg tgagcctgga     900
aaatatttgc taaaatatta aaaaataaag ttttatttct tcccacttca cgaaggttat     960
atttggaatt aagacagtgt gttctttaat agtattttc atagtaattg atttgatgag    1020
taggcaagaa tgatttgtga taagttaaat gtcttagata agtgtatgat taaaaaatag    1080
ctcatccggg tgtggtggct catgcttgta atctcagaac tttgggaggc cgaggtgggc    1140
ggatcacttg aggtaagtag ttcgagacca gtctggccaa catggtgaaa cccatctcta    1200
ctaagaagat aaaaattagc tgggcatggc acctgtagtc ccagctactc aggaggctga    1260
ggcaggagag gcaagagaat cacttgaacc cgggaggcag aggttgcagt gagccgagat    1320
cacaccactg cactccagcg tgagcgacag agcaagactc tatctcaaaa caacaacaac    1380
aacaaaaacc tcttgaaaat tcttactact ttatctgttg gctgaactaa tgccaagctc    1440
ccatcatgaa taatcaagaa tttcaacctg atgacttctt ggtaataata aagttcaatg    1500
gggttcttct catatggagt gtacataaaa cactgtgagg gcccagaaca gcaaaacgtg    1560
cttaaaggtg gacatgggat ctgcttcagg gtatctgctg aggttaggac tctgtgtgcc    1620
tgtgggcata aacatgtgga catacccttcc tttggatcct gaaatggcca attccacagt    1680
agggggaaag gaggaaggac agctgtgttt gaatctatca tttcttgaga cagcttgcat    1740
taaaagtcaa accaagaaaa cccaaatggc cacttggctt tctgtggtgt ttgggaaggc    1800
agtttgagga gtggtctgtg aagtccctgg gcaggagggc tcgggctgag ggctcagctg    1860
tggcacccccc agatgactgc tgaggtcatg aaggagctca tagcaccatt catgtttctg    1920
gactcagtca ttgtgcctgg ggtccccata gcaaggaaag tagggaagtg aaccaaggtc    1980
cagccagtgt tgctcttggc tgcagggaag gaaaaaaaaa aaaaaa               2026
```

<210> 5673
<211> 98
<212> DNA
<213> Homo sapiens

<400> 5673

```
cgggtggatc acttgaggtc aggagttcga gaccagcctg gccaacatgg cgaaaccccca      60
tctctactaa aaatacaaaa atttgccagg caaggagg                              98
```

<210> 5674
<211> 209
<212> DNA
<213> Homo sapiens

<400> 5674

```
ctggaggccc tgtgtgggga tgctggggta gggatcccag gaaatgagtt gaggggtagg      60
tgaggtgggg agggttgtaa tggctagagc aggggtgttc aatcttttgg cttccctgag     120
ccacattgga agaagaataa ttgtcttggg ccacacataa aatacagtaa cactaatgac     180
agctgatgag caaataagca aattgcaaa                                        209
```

<210> 5675
<211> 15413
```

<212> DNA
<213> Homo sapiens

<400> 5675
```
ctggagtctg gaaaaccacg cgggaggagg ttgtggggat atggacgagc atccgaggcc    60
cccgggtgcg tacggctgcg catgagtggg ctgtaatcgg gtgtctgggg gtgagtgact   120
gcgttcgtgc gatgcgcgcg gggagcagct gtcactttgc ccaccctgct ccggggcaag   180
gtctctggcg ccaggatctt ctgggtgggt gggagcagcg cccctcccct ccgatctggg   240
cccgcccccca atgcagagcc cgcccctccc tctgggtaca gctaataacc tctaattagt   300
gcacattacc ccgcccgtct accggggagg ggttgcagag ggaccctggg gtcacaggc    360
gcgagcctgg gcttcaccct tccctcaaa acccggtcca ctcggaacct ctgttttctc    420
gccggcaaag cagggaatta aaacagcact tgccatctgg agacatgggg aggattcaat   480
agtctatgta tttaaatcgc ttagcgcaag gactgcatac agtaagcact ccatacatgg   540
tgactgcaat ttattgttaa ctataattcc catcacttc cattgacccc cgctccaccg    600
ccccagccgg ggtttcaggg cgggcgcaca gtcttccccc taggccgcgt tctgcggtct   660
ccgcgccccc tggtgggccc gggcgacgcg gcagcttcag ccaaatcctg ggttctgagg   720
tgggggtgat gccgggcgcg catctgggga gggcaaggcg cggggggaat atcgtggaag   780
acggatccag gctgggcaag ggtgcctatc catcagccag gacatgtgtg tctaactgac   840
ctcttctcga cctaggacca tacccgtgtc cccttatcta ctgctggagt caataatgca   900
gggaggatcc attcatttat ttatttcttg aaacagggtc tcccccctga cgtccaggct   960
ggagtgcagt ggcgcgacca cggctcactg cagcgttgac ctcccggact caagcgatcc  1020
tcccacctca gcctctggag tagctgggaa taggcgcgtg ccaccacgcc agctacttt   1080
tatttttat tttattttg tagagacgga gtctcgctgt gttgccaggg ctgttctcga   1140
actcctgggt tcaagcagtc ctccctcctc gacctcccaa agtgctggga ttacagatgt   1200
gaaccatcgc gccaggcatt ttattttatt ttattttatt ttatttattt tttttgagac  1260
agtctcactc tgtcgcccag gctggagtgc agtggcgcga tctcggctca ctgcaacctc  1320
cgcctcttgg gttcaagcta ttctcctgcc tcaacctccc gagtagctgg gactacaggc  1380
gcgtgccacc atgcccggct aatttttgt attttagta gagaagggt ttcaccgtgt   1440
tagccaggat ggtctcgatc tcctgacctc gtgatccgcc tgcctaggcc tcccaaagtg   1500
ctgggataca gacgtgagcc gccgcgcccg gccctatttt taaattttta ctgttttttt   1560
ttgagacaga gtcttgctct gtcacccaga ctggagtgta gtggccctat cacggctcac   1620
tgcagtctcg acctcctggg ctcaagctat cctcccacct cagcctctgt agagctagga   1680
gctaggacca cagaaacacg ccaacatgtc tggctaattt tttttttttt tttttgagg   1740
agtcttgcac tgttgccccc tggagtgcag tggtacgatc tcggctgact gcaacctccg   1800
cctccagggt tcaagcgatt ctcctgcctc agcctcccga gtagctgaaa tcaggcgtgc   1860
gccaccacgc ccagctaatt tttagtattt ttagtagaga cggggtttca ccatgttggc   1920
caggctggtc tcgaacacct gacctcgtga tccgcccgcc tcggcctccc aaagtgctgg   1980
gattacaggt gtgagccacc gctacctgga gtaattttta aatttttga agagaggctg   2040
gtctccaact tctatccaaa ttaattctcc ctcctaggcc tcccaaaata ctgggattac   2100
agtcgagagc caccgcgtcg gcgggaaaac cccttagca tcccctctcc cagtccatag   2160
aaagtgccag ggctcgcccc tccccgcaca acggctccga ttataaagtg gttagacaca   2220
agaatttact taaggccggg cgcggtggct cacgcctgta atcccagcac tttgggaggc   2280
cgaggcgggc ggatcacgag gtcaggagat cgagaccatc ctggctaaca cggtgaaacc   2340
ccgtctctac taaaaataca aaaaattagc cgggcgaggt ggcggcgcc tgtagtccca    2400
gctactcggg aggctgaggc aggagaatgg cgtgaacccc aggggcgga gcctgcagtg   2460
agccgagatt gcgccactgc actccagcct gggcgacagc gagactccgt ctcaaaaaaa   2520
aaaaaaaaaa aaaaagaat ttacttaagt tgcagggaaa agacgtgaat gcgcttgtgt   2580
aacaggggtg gagcacctcc gtctcaaag gatcttgagg acctcccacc ccaaaaaggg   2640
ccagggcgag gatgggaggt gggaccaccc tcggatgcac aaggctgggc caggctgacc   2700
cctagcggca gggcgggcgc ccgaacggtg cccggatcca agatggcggg gctggaggca   2760
agagcgggcg tagggaggag attacgttcc gaggcggagc ctgggcttgg gggcgggggcg   2820
gggcctgcgc ctaggggggc ggggcggggc ggcgctctag gccgagcggg aggtcggggc   2880
tgcgggcgct cgctggtggc ggacccggag gctgctgcgg cgccggggct ccgtggcctg   2940
gattgaatcc gatcgggagc catgagcgtg gacaaagctg agctatgcgg gtctctgctc   3000
acctgggtag gtcgtggggc ggggctaggg gaaggtgagc gcccgctcct cttgcccggg   3060
atccctggcc ctggttcggt cagtctcttg gtgctggggc tgggaggtgc ggggtcgtcg   3120
acttgctgga ccgttggact ctggcccgag cacccgcccc cgtcacgtgg caagtctgcg   3180
tggaaaggac aggtgaggcc ccgcccctct gtggttggtt cacgtggggc gaggacacag   3240
gtgaattggc ctggtcacgt ggtgcctgtg gggcccaggt gactcgcgat accaccctgg   3300
cctggacgcg cagggtttgt tgggcagagg tgaggtgagg ccacgccccc tccggtctca   3360
ggtgagcaga agccagtccc tcgcagagct gctgtggcgg agcagcgccc gccccaccat   3420
```

2597

```
gtgaggttcg ctgactggaa aagtctgcaa aaggggagcg gttcggcgct cccaggccct  3480
aactctttcc ttgtcctttc ctttacccct cagttacaga cgttccacgt tccgtctccc  3540
tgtgccagcc ctcaggacct gagcagcggc cttgccgtag cctatgtgct gaaccagatg  3600
tgagtggagc tgaaggggag gatcccaaaa gtgtccccca gtctgctcat cccaccttct  3660
cgcccccaga gacccctcct ggttcaacga ggcatggctc cagggcatct cggaagatcc  3720
aggtcccaac tggaagctga aggtgacaag tggactcctg attagaggac agactggtga  3780
agagatgacc agggacgggc cagctaggca catgtcctgg gtgatgggca ggaagaggga  3840
cagatgtctg gtgatcaacc atttgttcat ccattcatct atggagtact caccctgtgc  3900
caggcctggg cattcagcaa ggaataacac agacaaaaac ctgccccaca cagccatcat  3960
tctagtgaca agcaacacat acacaaccat aaaaattaac ttccaggctg ggcgcagtgg  4020
ctcatgcctg taatcccaac actttgagag gctaaagtgg gtggatcacc tggggccagg  4080
agttcaagac cagcctggcc aacaagttga aaccccatct ctactaaaaa tacaaaaatt  4140
agctgggtgg ggtggtgtgc acctgtaatc ccagttactt gggaggctga gacatgagaa  4200
tcacttgaac ctgggaggtg gaggatgcag tgagctgaga ttgagccatt gcactccagc  4260
ctgggcaaca gagcgagact cttgtctcaa gaagaagaaa aaaagaaaaa gaaaagaaa  4320
aagaaaaaac ttttgatgcc agtagttctg tgaagacaac aaaaaagcag ggctttgaga  4380
gagagcaatg agggcatagg tggctgatta catcagatgg gttaatctcc aagtgaaatt  4440
tgggggaacg gtgttccagg catagggaat agcagatgta aaggccgtga tttgggaata  4500
aacttggtgt gatggaggaa tggcagagag ggcagaacag agcaagaggg caagatttgt  4560
aggagatgag gtcatcaggg gcctggcagg ccatggtggg ggtgtggatt ctatttttaa  4620
gtgctgtgga aagtcaaggc agggtttttag cagagcaaag atgcaacctg gcttgggctt  4680
tataaagctc cccctggctg catggagaga aataaaatgt aggcagcaaa agtggaagag  4740
gagaggcagc tggtgcacta atccaggtga gaggtaaaga tggatgggta gggctgaagg  4800
atggtggggc aggtggtgag aagtgacttg gttctggaga catatgaagg aagatggtca  4860
ggcaggccgg gcacagtggc tcatgcctgt aatcccagca attttagagg ctgaggtggg  4920
aggattgctt gagctcagga gcttgagacc agcctgggct acatagcaaa acctcctctc  4980
tacaaataaa aaaaagtagt cgattgtggt ggcatatgcc tgtagtccca gctactggga  5040
ggcagagata ggaggattgc ttgaccccag gaggtcgagg ctgcagtgag ccaagattgc  5100
accactgcac tccagcctgg gtgacagagc cagaccctgt cttaaaaagc taaagcaaaa  5160
aaaaaaaaaa aaaaaaaaag aaacaaagat ggtcaggcag acaaaagggg cagacagcca  5220
gacaggtcac ccctagagga aggcgcacgc agacagaata ggatgagatg agcagggaag  5280
gagaagtgag gtggagagag gatgggacct acagattcag agtgggaggc ctctgaactt  5340
gtccacagtt ccttgttcct ccctaggtca gcaatctgaa gatggtctta cggagcctag  5400
tagagtactc ccaggatgtg agtaactgta aagggattca gggggttgag ttgggagaag  5460
ggtgggccca tgagcccctg acacccccctt ctccccaggt cctggcgcat cctgtgtcag  5520
aagagcatct cccagatgtg agcctcattg gagagttctc agacccggca gagctcggca  5580
agctgcttca gctggtgctg ggctgtgcca tcagttgcga gaaaaagcag ggtatgggga  5640
gcttaggggg tccccagggc tggcctgagg aaatcctcct tcctccccac ctcacccctg  5700
ggtctcagcc tcccccacct tgatccccag accacatcca gagaatcatg acgctggaag  5760
aatcggttca gcatgtggtg atggaagcca tccaagaggt gggtgggggc actcagtgtg  5820
caattggaaa atgtcaggag aggggacatc tctagggcag agagaactgg gcacaggtcc  5880
tgccctggta aggtctggac tctgcctgga actcagctgg ccagacatct ctgtctcatg  5940
tgtctgccag ctcctcccag ctctaagtcg caatctagca ggctcaaggg atctggcttc  6000
cctctgtgtt ggaggcacgg agggcagcct ctgggctggg gttattgggc agaactggcc  6060
ttgacgggag gatggagagg ttctcaggtt ggatagtaga tactttgaag gctggcctca  6120
gatatccagt tcattacaat gccccttccc actcctcagc tcatgaccaa agacactcct  6180
gactccctgt caccagagac gtatggcaac tttgacagcc aggtaagaga tttgggggaa  6240
aggtgttcca ggcacaggga tcagcaaatc caaaggccgg gagttgggga taagtttgct  6300
gtgattaacc ttgtgactta accttgttaa aggtccagac cccacttaca gatgctcagg  6360
gtagcctaag ggggaggggc ttgtccttaa gcctgtaagc cacgccatc ttccagggtg  6420
ctagccactt cctgtaccag gtctccagtg ttctggaatc gctcttcctt cagtctccaa  6480
ccccagccct gtttctttt cttttctttt tctttttttt ttttttttt gagatggagt  6540
ctcactctgt cacccaggct ggagtgcagt ggcacgatct cggctcactg caacctccgc  6600
ctcccgggtt caagcgattc tcctgcctca gcctcccgag tagccaggac tacaggcaca  6660
cgccaccaca cccggctaat ttttgtgttt ttagtagaga ggggttcgc cacgttgggc  6720
aggctggtct ggaactcctg atctcaggta acccacccgc ctcagcctcc caaagtgctg  6780
ggattatagg cgcgagccac tgcacccggc gccagccctc ttttcaatcc tgagggtttc  6840
ttggccccct ccatttggcc tctagagatc tcagcctccc tcccccgtc cttctcctga  6900
atccctgagt tcctcttccc cctcatctct gcagtccgc aggtactatt tcctaagtga  6960
ggaggctgag gagggggacg aattacagca cgcgctgtctg gatctggagc ggcaggtagg  7020
gccctaggtg gggcagggtc acttgagtag cccctctcca agcccaagct catctttctg  7080
```

2598

```
ccctgcccgc agctgatgct cctgtcagag gagaagcaga gcctggcgca agagaatgca   7140
gggctgcggg agcggatggg ccggcctgaa ggcgagggta ccccaggtct cactgccaag   7200
aagctgctgc tgctgcaatc ccagctggag cagttgcagg aggagaactt caggtgtggt   7260
cagctgggga ctgggccagg caagccaggg gaccggggga gggcagcccc ctcatgtgct   7320
cttcccccaa cacccccagg ctggagagtg gcagggagga tgagcgcctg cgctgtgccg   7380
agctggagag ggaggttgcg gagctgcagc accggaacca ggcgctgact agcctggccc   7440
aggaggcaca ggccctgaag gatgagatgg atgaactacg gtgagtggtg ggttcctggg   7500
tccccatcac gggggcgggg gggtaaacct gtttccagag ttcccctctg atgccatagc   7560
agctctgtaa tttttcatgtg cccagtgaac ccccaatatg cccctggac tccacagtgc   7620
caccctgagc cctacagaac gcccaaggcc acattgcact atcctgaatt ccaccatatc   7680
ccctggaccc cacactgccc cccccttatc ccacagtatg cttccaagac cccatagcat   7740
ccctgtggcc ccccaaaaca caagaacctc ccctacaatg ctctgcagat cccactgcac   7800
agtttgggct tcataatgcc cctggatccc atggtacctt ctaggactcc acaatgcaat   7860
tactttgcac cccctttttga ctctactgtg ccttctgtaa ccacaaaggg ctccactggg   7920
cccctatagc atctctgtaa tgcgaaggta ctagtgcacc ccccaattgc acttctaagg   7980
accccgcagg tcctcttgtc ccatacctcc cccaatgact ccaaggtatc cttggcagat   8040
gctcagacct ctctaggctc cccatcactc ccccctataac cccaccctct gtgtccccac   8100
aattccaccc caggggatac ctgattataa ccctgggcta accattgctg taatgactct   8160
caacagctcc aggccctgat tgacccctaa ccctcaactt tcatgacccc ttcaccttga   8220
acccaaaagc ctcaggctga acaacaccct gtgctccaag ggccactcca catcccagct   8280
gacccctgat cagagctctc agccctcccc cttccctccc actcccctag gcagtcttcg   8340
gagcgtgctg ggcagctgga ggccacgctg accagttgcc ggcgccgctt gggcgagctg   8400
agggagctgc ggcggcaggt gcggcagctg gaggaacgca acgccggcca cgcccgagcg   8460
cacgcgacaa ctggaggatg agctacgccg agcgggctcc ctgcgcgccc agctggaggc   8520
gcagcggcgg caggtgcggc gggggcgggg ttagggccgg ggccccgccc ctggcagcaa   8580
gtctctcacc gttggccagc cctccgccca cccctgatcc cctcccttat ttgtacgtag   8640
gccacgctct ccgggcctct tccctccacc cacgctgctc ttctgtctgg gttagtaagc   8700
ccagcctttc ccttccctta agtaccgctc ctctaaattc tttgatgccc gccgcttcac   8760
catgctgctt gatttccttg gggctaccta accatgtaac aaaactcgtg gtaaattgaa   8820
aatatcctaa aatgcataaa ggccaggcct ggtatcccag cgctttggga ggctgagccg   8880
ggaggatcac ttgagcccag gatttcgagg ttgtagtgag ctgtggctgc atcactgcat   8940
tccagcctgg gtgacagggt gagaccctga ctcaaacaaa agaaaaagac cgggtgcggt   9000
ggctcgcgcc tgtaatccca gcactttggg aggccaaggc gggcacccca taactccttc   9060
tgtaacccca catcacttga ggccaggagt ttgagaccat cctggccaac atagcaaaac   9120
cctgtctcta cttaaaaata gaaaaattag tctgggcgtg gtggctcact cctgtaatcc   9180
cagcactttg ggaggccgag gcgggtggat cccgaggtca ggagatcgag accatcctgg   9240
ctaacacggt gaaaccccat ctctactaaa aatacaaaaa attagccggg cgtggtggtg   9300
ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggtgtg aacccgggag   9360
gcggagcttg cagtgagccg agatcgtgct actgcactcc aggctgggcg acagagcaag   9420
actccgtctc gaaaaaaaaa aaaaaaaaa ttagccgggc tggtggcgcg cgcctgtaat   9480
cccagctacc cagaaagctg aagcacgaga atagcttgaa cctgggaggt ggaagttgca   9540
gtaagccaag atcgcatcac tgcactccag cctggttgag agagggagac tgtctcaaaa   9600
gaaaaaagta aaagatatta aaaaagaaa aagaaaaaga gagctgggcg tggtgactca   9660
tgcctataat cccagcactt tgagaggttg agatgggaga tcgcttgagg ccagcagttc   9720
gagaacaccc tggtcaagat agcgagattc catctgtttt caaaaaataa aaattttaa   9780
attttttta aaaagaaaa tccattgaac atactttacc tactgagcat cacagcctag   9840
cctagcctac cttaaacatg ctcagaaaac ttaccttagc ctagtttggc aaaatcatct   9900
accataaagc ctatttata ataaagcgtt gactatataa cgcaatttat tgaagactaa   9960
ttcattgcaa ttgaaaaaca gaatggttgt atgggttcct actattaaca ttcacagtcg   10020
gctgggtgca acggctcaca cctgtaatcc cagtgctttg ggaggctgaa gtgggaggac   10080
tgcttgaggc caggagtttg agatcagcca gggcaacaga gggagaccct gtctctaaaa   10140
aaaacaagca aaaacataca cagctgaaag caccatagta aagtcaaaaa aataataagt   10200
caaagcatcc tggatcgggg accatttgta ctcagcccct gcccctgctc ccagccctgc   10260
tgtccttatt cctcccctct ctgtgttcag gtgcaggaac tgcagggcca gcggcaggag   10320
gaggccatga aggccgagaa atggctattt gaatgccgca acctggagga aaagtatgag   10380
tcggtgacaa aggagaagga ggtgaggctg aggttccact gcccaagccc caccctgcca   10440
attctggggt agcccatttc ccaggaggcc gagcctgacc cgtggagtgt cttgtaccct   10500
gtccctgcag cggcctgttg gcggagcggg actccttgcg ggaggccaat gaggagctgc   10560
gctgcgccca gctgcagccg cggggttga cccaggccgg tgagatgaag ccccatcccg   10620
gggtcttacc tgtcctggtg tactgtttgg gtagaacagg ttgtgtccca gtgcatgtct   10680
aggttggggga cagagctagg ccaggctgga ggtgaccaga aagaggtgac acggtcaaat   10740
```

2599

```
tgaagagaga ggctcagggt ctcagggtgg agcaaaggct aaaaagcttg gccaaccctc   10800
ccggttctct atcaagccgg ggatggagct tgtgtcaagc cagactgttg gctgaacttg   10860
aagccccaaa agatgatcct tgggaagaag accctagggg cggggacagg ggatgcgaag   10920
agacctgaag actttctcg cattcttcag atccctcact ggatcccacc tccacacccg   10980
tggataactt agccgcagag atcctgcctg cggagctcag gtatcctggg gtcactcaaa   11040
actctggccc cacccaggct tgccaaggcc cgccctcagc ccgctcccg ccctcccatc   11100
ttctgctagc cccggttgct tggtctcagc tccaggtgcc agccgggctc ctaggcccac   11160
ttactcctga tttggctctg tccagcccta ccagatgact ttgcctctca agggtctatc   11220
cttagtacac aaattatgtc caacacctgg ctccagttcc tgcacaaaaa tcctatgccc   11280
tagccccgct gactttgatc cttttccccca gcgtccaccc ctgttagtgt aacctctgtg   11340
agtttcagtc ccctgtgccc tgccgggatt aactctccca ccccgggcca ggcacggtgg   11400
atcatgcctc taagtcccag cactttggaa ggccgaagct ggaggatcac ttgagcccag   11460
gagtttgaga gcagcttggg caacatagtg gccctctcta caaaataaaa atgatttaaa   11520
aacccgaaaa acgaccgggc gcggtggctc acgcctgtaa tcccagcact tcgggaggcc   11580
aaggcgagcg gatcacaagg tcaggagatc gagaccatcc tggctaacac ggtgaaaccc   11640
cgtctctact aaaaatacaa aaaattagcc gggtgtggtg gcacgcacct gtagtcccag   11700
ctactcggga ggttggggca ggagaatcgc ttgaacctgg gaggcagagg ttgcagtgag   11760
ccgagatcgc gccactgtat tccagcctgg gcgacagagc gagactccat ctcaaacaaa   11820
caaaaagcca aaactaacca aacaaacaaa caaaaaaacc cgaaaaact gtcccatcct   11880
agttcttccc atttctgctt cccgctttcc agcagtccca tcccagctgt tcgaatccac   11940
tcttgtagct ccgcccctgc ctagccccac ccactatccc agcttagagc tccgtccact   12000
ttaaccctgg gccgggaacc tgaacccgta gtaggtcctc ggtgctccaa ccccatggtc   12060
tggctgggct cttccccagg gctctgtccc gccctagct ccactctccc tgagccccag   12120
cgagcctgcg aggtgactcg accctggccc tgctctctcc tcccgggtct gcagggagac   12180
gctcctgcgg cttcagctgg agaacaagcg gctgtgcagg caggaggcgg ccgaccggga   12240
gcggcaggag gagctgcagc gccacctgga ggatgccaac cgcgcgcgcc acgggttgga   12300
gacgcagcac cggtgagcgc ctggggacct acctgcgcgg agcagggaca gagggggcca   12360
aaagtgggca caggcactaa gcggccccc accctcgcag gctgaaccag cagcagctat   12420
ccgagctgcg ggcccaggtg gaggacctgc agaaagccct gcaggagcag gggggcaaga   12480
ctgaagatgt gagtgtcacc caccacctcc cagcctggcc ctcccttgtg ccccgaagta   12540
accctcctct ctctcccatg ctgcccgatg ccccatacag gccattgtaa gtaccatggg   12600
cccaggatgg cacccctac cctcaccctg ggaaggaaga attagggcct ctctggatcc   12660
cccactcacc ttgcctcttc tctctcccag tccattttgc tgaaaaggaa gctggaggaa   12720
catttgtaag tcgcagaaag agggaactcc tcgtgggggc atggatttga tattagtggg   12780
gagtttctta ggcatgtgcc accatgcctg gctgattttt tatatttta gtagagacgg   12840
ggtttcacta tgttggccag gctggtctcg gactcctgac cccagatgat ccacccgctt   12900
tggcctccca aagtgctggg attacaggca tgagccaccg cgcctggcct gctttctttt   12960
cttttacctg tctgctattg aagagatttg tattctagaa agatccctgg ctgctggatg   13020
gagtgcttga gagtagaaga agctagcaag ggaagatggt ggctgaacca gcttgggagc   13080
tgtgggatgg gaagaagtgg acagcagggg ctgttccggg gcatacctgc taagggtgcg   13140
gagggttgtg gctctgacag ctgtggagcc ggtgggacca gggcacacag ccccaggcat   13200
gaggggcagg cagagagggc tctgtggcca tgtaggggca tttctggctg gcggggaggt   13260
ctgtggctac cactgggaca aaagagaagc cagcccggag gtcagcccac tgctgctcat   13320
ccccggccca caggcagaag cttcatgagg cagatctgga gttgcagagg aagcgggagt   13380
acattgagga gctggagcca cccactgaca gcagcagtaa gtaggaccta gtgaccagag   13440
ggtgggggaga tcccagagcc cagcagcgtg gagctgatgg gccacctctt ccgccagcag   13500
cccggcggat cgaggagctg cagcataact tgcagaagaa ggacgcggac ttgcgggcca   13560
tggaggagcg ataccgccgc tacgtggaca aggcccgcat ggtgaggacg ctgggtgttc   13620
ccacaagttg cctgccctgg cttcttactt tttgtgcctc ctattgagtc aaacctcctg   13680
cttgcacatc tgtgcccca actcatacct gtcataccc accataagac agacttctgc   13740
atgattcccc actgctactg attgtcacat taaaatactg cacagctggc tgggtgccgt   13800
ggctcatggc tgtaatccca gcactttggg aggtcaaggc aggcggaaca tgaggtcagg   13860
agtttgagac cagcctggcc aacatggtga aaccccatct ctactaaaaa tacaaaaatt   13920
agctgggcat ggtggtgggt gcctgtaatc ccagctactc aggaggctga ggcaggaaaa   13980
tcatttgaac ccgggaggcg gaggttgcag ttagctgaga ttgtgccact gcgctccagc   14040
ctaggcgaca gggcaagagt ccatctcaaa aaaaaaaaa aaaaaaaaaa aaattacgca   14100
cagccaggcg cagtggctca cgccgctaat cccagcactt gggaggctg aagcagctga   14160
tcccttgagg tcaggagttc gagagcagcc tggccaacat ggcgaaaccc cgtctctacg   14220
aaaaatagaa aaattaggcg ggattggtaa catgcgcctg taatcccagc tactcgggag   14280
gctgaggcag gagaatcact tgaacccggg aggcaaaagt tgcagtgagc tgagagtgcg   14340
ccacttcact ccaggctggg caacagagcc agactccatc acaaaaataa aaataaaaat   14400
```

2600

```
aaagtaaaaa taaagtactg gctggatggg cacaatggct catgcttgta acctcaacac    14460
tttgggaggc taaggcagga gaattgcttg atgccaggag ttcaagacca tcctgggcaa    14520
cataggggga ctctgtctct ataatgaatg aaagaatgaa tgaatacaca caccccagta    14580
tgtcccaggg ggtttcaagg ccaaagtcac ctggctatga cttcctcaac ctgtaggtca    14640
tgcagaccat ggaacccaag cagcggccag ctgcgggggc acctccagaa ctccattccc    14700
tgaggacaca gctccgagaa cgggatgtcc gcatccgaca cctggaggtg ggtgtcctcg    14760
tccctttacg ctgcctccaa cgtatctagg cccctgacac ttgcctcctt gacagatgga    14820
ctttgagaaa agccgaagtc agcgggagca ggaagaaaag ctgctcatca gtgcctggta    14880
taatatggta agtgtggggt ctgggctcta agatctcatg ggtagaatat tggtggggg    14940
gtcctgtgag ctcacctgac cccaaccaca cctcctcctg aagggcatgg ccttgcagca    15000
gcgagctggg gaggagcggg cgcctgccca tgcccagtca ttcctggcac agcagcggct    15060
ggcaaccaat tctcgccgtg gacccttggg acgcctggca tctctgaacc ttcgccccac    15120
tgacaagcac tgacagacct cacaatcaag ccagcctggg ctccacccac cctggcttcc    15180
tccagctcac atggcgccca gcactgggct tcagccaggt gctcgagagc tttgaggcca    15240
tgatctctgc tcttccctct cccagattgg tggggaggga gggcgggagg tagatatagg    15300
cctgttcttt ttagcaatgt gattcttgtt gttgattctc tctctggagt tcatgtgctg    15360
cctcaggaga ctctgatttt atatttgaga aaaataaagg cgttcaatct gcc          15413


<210> 5676
<211> 7443
<212> DNA
<213> Homo sapiens

<400> 5676
ctggagtctg gaaaaccacg cgggaggagg ttgtggggat atggacgagc atccgaggcc      60
cccgggtgcg tacggctgcg catgagtggg ctgtaatcgg gtgtctgggg gtgagtgact     120
gcgttcgtgc gatgcgcgcg gggagcagct gtcactttgc ccaccctgct ccggggcaag     180
gtctctggcg ccaggatctt ctgggtgggt gggagcagcg cccctccct ccgatctggg     240
cccgccccca atgcagagcc cgcccctccc tctgggtaca gctaataacc tctaattagt     300
gcacattacc ccgcccgtct accggggagg ggttgcagag ggaccctggg gtcacagggc     360
gcgagcctgg gcttcaccct tcccctcaaa acccggtcca ctcggaacct ctgttttctc     420
gccggcaaag cagggaatta aaacagcact tgccatctgg agacatgggg aggattcaat     480
agtctatgta tttaaatcgc ttagcgcaag gactgcatac agtaagcact ccatacatgg     540
tgactgcaat ttattgttaa ctataattcc catcactttc cattgacccc cgctccaccg     600
ccccagccgg ggtttcaggg cgggcgcaca gtcttccccc taggccgcgt tctgcggtct     660
ccgcgccccc tggtgggccc gggcgacgcg gcagcttcag ccaaatcctg ggttctgagg     720
tgggggtgat gccggcgcgc catctgggga gggcaaggcg cgggggggaat atcgtggaag     780
acggatccag gctgggcaag ggtgcctatc catcagccag gacatgtgtg tctaactgac     840
ctcttctcga cctaggacca tacccgtgtc cccttatcta ctgctggagt caataatgca     900
gggaggatcc attcattat ttatttcttg aaacagggtc tcccccctga cgtccaggct     960
ggagtgcagt ggcgcgacca cggctcactg cagcgttgac ctcccggact caagcgatcc    1020
tcccacctca gcctctggag tagctgggaa taggcgcgtg ccaccacgcc cagctacttt    1080
tatttttat tttatttttg tagagacgga gtctcgctgt gttgccaggg ctgttctcga    1140
actcctgggt tcaagcagtc ctccctcctc gacctcccaa agtgctggga ttacagatgt    1200
gaaccatcgc gccaggcatt ttattttatt ttattttatt tatttttttt gagacagtct    1260
cactctgtcg cccaggctgg agtgcagtgg cgcgatctcg gctcactgca acctccgcct    1320
cttgggttca agctattctc ctgcctcaac ctcccgagta gctgggacta caggcgcgtg    1380
ccaccatgcc cggctaattt tttgtatttt tagtagagaa ggggtttcac cgtgttagcc    1440
aggatggtct cgatctcctg acctcgtgat ccgcctgcct aggcctccca aagtgctggg    1500
atacagacgt gagccgccgc gcccggccct attttaaat ttttactgtt ttttttttgag    1560
acagagtctt gctctgtcac ccagactgga gtgtagtggc cctatcacgg ctcactgcag    1620
tctcgacctc ctgggctcaa gctatcctcc cacctcagcc tctgtagagc taggagctag    1680
gaccacagaa acacgccaac atgtctggct aatttttttt ttttttttt ttgaggagtc    1740
ttgcactgtt gcccctgga gtgcagtggt acgccgatcgg ctgactgcaa cctccgcctc    1800
cagggttcaa gcgattctcc tgcctcagcc tcccgagtag ctgaaatcag gcgtgcgcca    1860
ccacgcccag ctaattttta gtattttag tagagacggg gtttcaccat gttggccagg    1920
ctggtctcga acacctgacc tcgtgatccg cccgcctcgg cctcccaaag tgctgggatt    1980
acaggcgtga gccaccgcta cctgggtaat tttaaattt ttgaagaga ggctggtctc    2040
caacttctat ccaaattaat tctccctcct aggcctccca aaatactggg attacagtcg    2100
agagccaccg cgtccggcgg gaaaacccct ttagcatccc ctctcccagt ccatagaaag    2160
```

2601

```
tgccagggct cgcccctccc cgcacaacgg ctccgattat aaagtggtta gacacaagaa    2220
tttacttaag gccgggcgcg gtggctcacg cctgtaatcc cagcactttg ggaggccgag    2280
gcgggcggat cacgaggtca ggagatcgag accatcctgg ctaacacggt gaaaccccgt    2340
ctctactaaa aatacaaaaa attagccggg cgaggtggcg ggcgcctgta gtcccagcta    2400
ctcgggaggc tgaggcagga gaatggcgtg aaccccaggg ggcggagcct gcagtgagcc    2460
gagattgcgc cactgcactc cagcctgggc gacagcgaga ctccgtctca aaaaaaaaaa    2520
aaaaaaaaaa aagaatttac ttaagttgca gggaaaagac gtgaatgcgc ttgtgtaaca    2580
gggtggagca cctccgtctc aaaaggatct tgaggacctc ccaccccaaa aagggccagg    2640
gcgaggatgg gaggtgggac caccctcgga tgcacaaggc tgggccaggc tgacccctag    2700
cggcaggacg ggcgcccgaa cggtgcccgg atccaagatg gcggggctgg aggcaagagc    2760
gggcgtaggg aggagattac gttccgaggc ggagcctggg cttgggggcg gggcggggcc    2820
tgcgcctagg ggggcggggc ggggcggcgc tctaggccga gcgggaggtc ggggctgcgg    2880
gcgctcgctg gtggcggacc cggaggctgc tgcggcgccg gggctccgtg gcctggattg    2940
aatccgatcg ggagccatga gcgtggacaa agctgagcta tgcgggtctc tgctcacctg    3000
ggtaggtcgt ggggcggggc taggggaagg tgagcgcccg ctcctcttgc ccgggatccc    3060
tggccctggt tcggtcagtc tcttggtgct ggggctggga ggtgcggggt cgtcgacttg    3120
ctggaccgtt ggactctggc ccgagcaccc gccccgtca cgtggcaagt ctgcgtggaa     3180
aggacaggtg aggccccgcc cctctgtggt tggttcacgt ggggcgagga cacaggtgaa    3240
ttggcctggt cacgtggtgc ctgtggggcc caggtgactc gcgataccac cctggcctgg    3300
acgcgcaggg tttgttgggc agaggtgagg tgaggccacg cccctccgg tctcaggtga     3360
gcagaagcca gtccctcgca gagctgctgt ggcggagcag cgcccgcccc accatgtgag    3420
gttcgctgac tggaaaagtc tgcaaaaggg gagcggttcg cgctcccag ccctaactc      3480
tttccttgtc cttccttta cccctcagtt acagacgttc cacgttccgt ctccctgtgc     3540
cagccctcag gacctgagca gcggccttgc cgtagcctat gtgctgaacc agatgtgagt    3600
ggagctgaag gggaggatcc caaaagtgtc ccccagtctg ctcatcccac cttctcgccc    3660
ccagagaccc ctcctggttc aacgaggcat ggctccaggg catctcggaa gatccaggtc    3720
ccaactggaa gctgaaggtg acaagtggac tcctgattag aggacagact ggtgaagaga    3780
tgaccaggga cgggccagct aggcacatgt cctgggtgat gggcaggaag agggacagat    3840
gtctggtgat caaccatttg ttcatccatt catctatgga gtactcaccc tgtgccaggc    3900
ctggcattc agcaaggaat aacacagaca aaaacctgcc ccacacagcc atcattctag      3960
tgacaagcaa cacatacaca accataaaaa ttaacttcca ggctgggcgc agtggctcat    4020
gcctgtaatc ccaacacttt gagaggctaa agtgggtgga tcacctgggg ccaggagttc    4080
aagaccagcc tggccaacaa gttgaaaccc catctctact aaaaatacaa aaattagctg    4140
ggtggggtgg tgtgcacctg taatcccagt tacttgggag gctgagacat gagaatcact    4200
tgaacctggg aggtggagga tgcagtgagc tgagattgag ccattgcact ccagcctggg    4260
caacagagcg agactcttgt ctcaagaaga agaaaaaaag aaaaagaaaa agaaaaagaa    4320
aaaacttttg atgccagtag ttctgtgaag acaacaaaaa agcagggctt tgagagagag    4380
caatgagggc ataggtggct gattacatca gatgggttaa tctccaagtg aaatttgggg    4440
gaacggtgtt ccaggcatag ggaatagcag atgtaaaggc cgtgatttgg gaataaactt    4500
ggtgtgatgg aggaatggca gagagggcag aacagagcaa gagggcaaga tttgtaggag    4560
atgaggtcat caggggcctg gcaggccatg gtgggggtgt ggattctatt tttaagtgct    4620
gtggaaagtc aaggcagggt tttagcagag caaagatgca acctggcttg ggctttataa    4680
agctcccct ggctgcatgg agagaaataa aatgtaggca gcaaaagtgg aagaggagag     4740
gcagctggtg cactaatcca ggtgagaggt aaagatggat gggtagggct gaaggatggt    4800
ggggcaggtg gtgagaagtg acttggttct ggagacatat gaaggaagat ggtcaggcag    4860
gccgggcaca gtggctcatg cctgtaatcc cagcaatttt agaggctgag gtgggaggat    4920
tgcttgagct caggaggtg agaccagcct gggctacata gcaaaacctc ctctctacaa     4980
ataaaaaaaa gtagtcgatt gtggtggcat atgcctgtag tcccagctac tgggaggcag    5040
agataggagg attgcttgac cccaggaggt cgaggctgca gtgagccaag attgcaccac    5100
tgcactccag cctgggtgac agagccagac cctgtcttaa aaagctaaag caaaaaaaaa    5160
aaaaaaaaaa aaaagaaaca aagatggtca ggcagacaaa aggggcagac agccagacag    5220
gtcacccta gaggaaggcg cacgcagaca gaataggatg agatgagcag ggaaggagaa     5280
gtgaggtgga gagaggatgg gacctacaga ttcagagtgg gaggcctctg aacttgtcca    5340
cagttccttg ttcctcccta ggtcagcaat ctgaagatgg tcttacggag cctagtagag    5400
tactcccagg atgtgagtaa ctgtaaaggg attcagggg ttgagttggg agaagggtgg      5460
gcccatgagc cctgacaccc ccttctcccc aggtcctggc gcatcctgtg tcagaagagc    5520
atctcccaga tgtgagcctc attggagagt tctcagaccc ggcagagctc ggcaagctgc    5580
ttcagctggt gctgggctgt gccatcagtt gcgagaaaaa gcagggtatg gggagcttag    5640
ggggtcccca gggctggcct gaggaaatcc tccttcctcc ccacctcacc cctgggtctc    5700
agcctccccc accttgatcc ccagaccaca tccagagaat catgacgctg gaagaatcgg    5760
ttcagcatgt ggtgatggaa gccatccaag aggtgggtgg gggcactcag tgtgcaattg    5820
```

2602

```
gaaaatgtca ggagagggga catctctagg gcagagagaa ctgggcacag gtcctgccct    5880
ggtaaggtct ggactctgcc tggaactcag ctggccagac atctctgtct catgtgtctg    5940
ccagctcctc ccagctctaa gtcgcaatct agcaggctca agggatctgg cttccctctg    6000
tgttggaggc aggagggcag cctctgggct ggggttattg ggcagaactg gccttgacgg    6060
gaggatggag aggttctcag gttggatagt agatactttg aaggctggcc tcagatatcc    6120
agttcattac aatgcccctt cccactcctc agctcatgac caaagacact cctgactccc    6180
tgtcaccaga gacgtatggc aactttgaca gccaggtaag agatttgggg gaaaggtgtt    6240
ccaggcacag ggatcagcaa atccaaaggc cgggagttgg ggataagttt gctgtgatta    6300
accttgtgac ttaaccttgt taaaggtcca gaccccactt acagatgctc agggtagcct    6360
aaggggggagg ggcttgtcct taagcctgta agccacgccc atcttccagg gtgctagcca    6420
cttcctgtac caggtctcca gtgttctgga atcgctcttc cttcagtctc caaccccagc    6480
cctgttttct tttcttttct ttttcttttt tttttttttt tttgagatgg agtctcactc    6540
tgtcacccag gctggagtgc agtggcacga tctcggctca ctgcaacctc cgcctcccgg    6600
gttcaagcga ttctcctgcc tcagcctccc gagtagccag gactacaggc acacgccacc    6660
acacccggct aatttttgtg tttttagtag agaagggggtt cgccacgttg ggcaggctgg    6720
tctggaactc ctgatctcag gtaacccacc cgcctcagcc tcccaaagtg ctgggattat    6780
aggcgcgagc cactgcaccc ggcgccagcc ctcttttcaa tcctgagggt ttcttggccc    6840
cctccatttg gcctctagag atctcagcct ccctcccccc gtccttctcc tgaatccctg    6900
agttcctctt cccctcatc tctgcagtcc cgcaggtact atttcctaag tgaggaggct    6960
gaggaggggg acgaattaca gcagcgctgt ctggatctgg agcggcaggt agggccctag    7020
gtggggcagg gtcacttgag tagcccctct ccaagcccaa gctcatcttt ctgccctgcc    7080
cgcagctgat gctcctgtca gaggagaagc agagcctggc gcaagagaat gcagggctgc    7140
gggagcggat gggccggcct gaaggcgagg gtaccccagg tctcactgcc aagaagctgc    7200
tgctgctgca atcccagctg gagcagttgc aggaggagaa cttcaggtgt ggtcagctgg    7260
ggactgggcc aggcaagcca ggggaccggg ggagggcagc cccctcatgt gctcttcccc    7320
caacaccccc aggctggaga gtggcaggga ggatgagcgc ctgcgctgtg ccgagctgga    7380
gagggaggtt gcggagctgc agcaccggaa ccaggcgctg actagcctgg cccaggaggc    7440
aca                                                                  7443

<210> 5677
<211> 104
<212> DNA
<213> Homo sapiens

<400> 5677
tttttttttt tttttttttt gagatggagt ctcactctgt cgcccaggct ggagtgcagt      60
ggcacgatct tggctcactg cagcctctgc ctcctgggtt caag                      104


<210> 5678
<211> 427
<212> DNA
<213> Homo sapiens

<400> 5678
tggcagaggg gcactgttct ccagttgtgg gactgagggt cccttctca gccctgatga       60
agactggatc cctgcccaga tgtgaacgct ggagggggca ggccggggtc cagctgtggc      120
cacagggagg ggttgagtca gccgcttccc agcagtacaa cctaggctgg gcccagctgt      180
tcctggaaac cagtagaggg ggtgggctcc ccaatccagc tgggggctgc tggcccagac      240
ctgcacacca gggctctgtg tccctacaaa tggcggcctt cagaccatcc cccaaaacgt      300
tgggggctct ctttacctaa aacaggggtt tggatccttc ttccaaaatg tggagggttt      360
ttcagcccct cttgctgaat taaaggtgcc tggatctccg cacagcgggg ctccctgtgt      420
ttcaaaa                                                               427


<210> 5679
<211> 427
<212> DNA
<213> Homo sapiens
```

2603

<400> 5679
```
tggcagaggg gcactgttct ccagttgtgg gactgagggt cccctctca gccctgatga    60
agactggatc cctgcccaga tgtgaacgct ggaggggca ggccggggtc cagctgtggc   120
cacagggagg ggttgagtca gccgcttccc agcagtacaa cctaggctgg gcccagctgt   180
tcctggaaac cagtagaggg ggtgggctcc ccaatccagc tggggctgc tggcccagac   240
ctgcacacca gggctctgtg tccctacaaa tggcggcctt cagaccatcc cccaaaacgt   300
tgggggctct ctttacctaa aacaggggtt tggatccttc ttccaaaatg tggagggttt   360
ttcagcccct cttgctgaat taaaggtgcc tggatctccg cacagcgggg ctccctgtgt   420
ttcaaaa                                                            427
```

<210> 5680
<211> 2749
<212> DNA
<213> Homo sapiens

<400> 5680
```
agaagcttgt aggttagcaa aatttcagtt tctctagttc agccagtgtc ttgtccttag    60
taattatttg ctttccctgc agttcaattt ctccttggaa ctctaacagg actaactgga   120
aaaatacttt gaccatagct ctagtacttc caaataaatt catatctaga ttttcaaaca   180
aagccccaag atgaagtcta attctgaaaa tatctcacaa tttttgaatg ttcttttat   240
cttaccgacc taacttctct tttccctccc aacttggcct cccacacgtt ccatttcatt   300
ttggccatta tagtcacatc cgtttgactt tggttgtgac atcttccttt caggatgatg   360
gaattagatg cagtctgtct ttgagtgaga ctggtcacca tcagaggagt tttttctaag   420
tgacgtgact agaagttgaa atctacttcc ctgctaaagg gcacaggggt ggtgtacaaa   480
gaaagctacc ttcccagagc aagcaggctg cattttagct atggaagtga cctgctgtga   540
cactgtgctc tcttctgtgg gcttaatggt tcctttgcta tgaagtggca aattacatgt   600
agagtgtctc cttccttttc agagaacagt taatcaaggc aaatcagcaa gcccccaaag   660
tgctgtaatt taacatcatg attaccacct tcgaagctat atattttgca tactttaaaa   720
tcacctaact tggactgctt gaattacatt ggctttaga accgaaattg taactatgta   780
ttgtatttca tgggaggtat attttatgag cttttttggct ttctttttc ccacagcaac   840
tgccaatgaa ggatgaatcc cctttttaaa aagttgttgt tgttgttgtt tatttgattt   900
tgagttagga gggataatag agaagtccat ttaaaaatta tttttagaag ctaaagaaag   960
taattatgct tcctgtgaat tgtcttttac tggcatcttt gttttcctct ttgatgttag  1020
taaatttggt gtaatacgtg gggcttccat atttcaaagt ggaagctttc ttctctgaag  1080
tcgatatatg gttttgaatt actagagctt tggtcagtat ttccttccct atatgtcaca  1140
gagggcacca ctgagaactg cgtgcatagg acctcaaaat acaaaattag cagggcctca  1200
cagtcagctt cctcatggct agttttttccc ccttatatta caatttttgt tttataagtc  1260
attttttttcc tgatatttcc accactttc agagtcatct acaaaatttt tctttcctca  1320
agaaaagagt tccttttgcc ttattcctta tgccttcccc actggtattg agggttttga  1380
taataaattg gtaggaaaaa aaagtacctc ctagaaggaa gccttcccca ccatttccag  1440
gtgccaactg ctaagcagat atattccaaa aatggtaact gtcatgtgca cactgttggt  1500
tatttttaat aagcctcttc ctactagaac attttatttt ccttgttcac catacaatca  1560
tgtactcttt aacagaaatt gcttttaaaa aatatctgga actatcttta aaaaaacttt  1620
attaataatc atgtattttt actgatcaca ttttgaaatg cctaaaagac tttattgttc  1680
taattatcca gatgtacctt tgtaaaatag ctcttttatg aattagctga taaggctgta  1740
tgtttctgga acaaaatatt ggtcatctaa aaactttctg ttttctgggg tctgggaaaa  1800
tagaaaataa gatttcaaat attaaataag cttaaaggaa ccaagcatgt gacttttat   1860
ttgtattctg gttgatttgt cttgtccaag ttatattaga aaagttgagg agtcgaggag  1920
cctgtaatta attttcctgt cagtgactgt cagacatctt cctgcttatt agagcatccc  1980
tagcaacaag gctaaacctt catgacagtg ctggcaggtg ggcttgccct agcatgtggg  2040
gcaggtttgt tgttttttta atagctttat tgagatattc acatatcata taattcatcc  2100
atttaaagtg tataatcaga tgggtttttgg tatattattg attttaatt gtggtgaaat  2160
atatatataa caaaatttgc tattgtaact attttaagt ataaagttca gtgaggtagg  2220
ccagctttta tgacgcacct gaagataact ttggttttaa tcctacccta aatgaagcat  2280
atgcctctat ttttcctgtc cccagtgctg ggcttcttca cataccaaca tttctgtgct  2340
tttaccaaca gcattttag ctcagaaggc tcgcttactt tgggcatttg ctgtattttg  2400
gttttgaaat acttgtaatt tgacttattc ttgggataat attttagttt tcagtcattc  2460
aagggcacat ttggctgacg gagctaataa gcgtaataaa atgcttagta gtttatacca  2520
tcttttagtt aaacatttta aagattaaga ctattcaaat gtactttgcg gaaattaacc  2580
tgttttgtat gcctggcttt gtttacaaac atatatctat atctatatat atagatacag  2640
```

2604

atacagatac atatctggtg gaacaaagaa atacctgtac cattcccact tgctctttga   2700
tagccacctc ctaggaatgg agacaataaa actctgtatt tgcatgtga   2749

<210> 5681
<211> 4190
<212> DNA
<213> Homo sapiens

<400> 5681
gtggatgggc ttcctcccgc cctgaggcaa gcacctcttc tctgtagctg ggatcaacca   60
caattaatag gaatcctcaa catactaaat agcaggcact tgaaaatggg tgtgttttct   120
tccattgtcg tcttttctat tgagggttgg gatttgggtg ggagaggaaa gcaaatttta   180
ttttcttgac tataaatttg ttattcttgg tatcatttca tttttataat tatacattag   240
acattggcac ttgtgtaaaa ctgtccctgc agattgagca ggaagtaaaa acaaatggaa   300
atgcttcgga tagtggcagg ggtggggggtt gctaaggaaa gggtgggatg ggagtgggta   360
aagagtttgg gaaggttatc taactgaatc actactgagt tgaatcatgg ctatcattag   420
ccacaggtac tgctgattat aaggccagta aaatttagt acctggaggt ttgactctaa   480
tttttgcact gatggtgcca aagggccctg agtcaaaagg atagccaagg gtggagtgga   540
aaaagatatg gtgaaggcag aactgctcac accagctcca gaagcacgtc ctctgacttc   600
actgccgcag ctctttccac acggggccgt gattgaccct aaaaattgca gaccagcaca   660
tacactggac actgcaggca aggtgttggt aactgcctgc tctaggatga atagtagcgt   720
tagcagcacc ctacagaggg taagtttcag aattgtaatt tgagaactcc ttcaattata   780
ttgactttct ttggttttcc ttgtgcatta ggtatatatt ttttgaagta tttttgccaa   840
ctaaaatgaa gtctgtaaat tctgttaata aacaaggagt tcatccgttg ctcacatctt   900
tcattggtgc cctctgaact ctgtgggttg ctaggatgta attttaatgc ttccctgcag   960
tccaaagatg attttttcac cacaaatggt aagggatgcc cacctacttt tataaacacc   1020
actgcaactt aacaagttta tttatctatg tccagatttc tgtttctgtc ctaaattgat   1080
ctgtgttttt aggtggatca acttggatct ttagacctca tctataaatt gaaattatat   1140
ttttagtcat aagccaagta caatctaact cagaatggga ttaaaaattt tagaagcaga   1200
agctaatata taaatgaagt ttgggatttg gaactttctg tatctcttag gaggaacaag   1260
taaaaaccaa atggttacat tgtgctgcta gaaataatgt cattctcaat taaaagggtt   1320
acacctgtag ccacttgaca ctaacaccat cgagggcaat taatcaggag aaaagtaaat   1380
ataaaaactt tgctcttaac gtcacacact acagggtaat tatgtaattc tctagcactc   1440
aattaagaag cttgtaggtt agcaaaattt cagtttctct agttcagcca gtgtcttgtc   1500
cttagtaatt atttgctttc cctgcagttc aatttctcct tggaactcta acaggactaa   1560
ctggaaaaat actttgacca tagctctagt acttccaaat aaattcatat ctagatttc   1620
aaacaaagcc ccaagatgaa gtctaattct gaaaatatct cacaattttt gaatgttctt   1680
tttatcttac cgacctaact tctcttttcc ctcccaactt ggcctcccac acgttccatt   1740
tcattttggc cattatagtc acatccgttt gactttggtt gtgacatctt cctttcagga   1800
tgatggaatt agatgcagtc tgtctttgag tgagactggt caccatcaga ggagttttt   1860
ctaagtgacg tgactagaag ttgaaatcta cttccctgct aaagggcaca ggggtggtgt   1920
acaaagaaag ctaccttccc agagcaagca ggctgcattt tagctatgga agtgacctgc   1980
tgtgacactg tgctctcttc tgtgggctta atggttcctt tgctatgaag tggcaaatta   2040
catgtagagt gtctccttcc tttcagaga acagttaatc aaggcaaatc agcaagcccc   2100
caaagtgctg taatttaaca tcatgattac caccttcgaa gctatatatt ttgcatactt   2160
taaaatcacc taacttggac tgcttgaatt acattggctt ttagaaccga aattgtaact   2220
atgtattgta tttcatggga ggtatatttt atgagctttt tggctttctt ttttcccaca   2280
gcaactgcca atgaaggatg aatccccttt ttaaaaagtt gttgttgttg ttgtttattt   2340
gattttgagt taggagggat aatagagaag tccatttaaa aattatttt agaagctaaa   2400
gaaagtaatt atgcttcctg tgaattgtct tttactggca tctttgtttt cctctttgat   2460
gttagtaaat ttggtgtaat acgtggggct tccatatttc aaagtggaag ctttcttctc   2520
tgaagtcgat atatggtttt gaattactag agctttggtc agtatttcct tccctatatg   2580
tcacagaggg caccactgag aactgcgtgc ataggacctc aaaatacaaa attagcaggg   2640
cctcacagtc agcttcctca tggctagttt ttccccctta tattacaatt tttgttttat   2700
aagtcatttt tttcctgata tttccaccac ttttcagagt catctacaaa attttttctt   2760
cctcaagaaa agagttcctt ttgccttatt ccttatgcct tccccactgg tattgagggt   2820
tttgataata aattggtagg aaaaaaaagt acctcctaga aggaagcctt ccccaccatt   2880
tccaggtgcc aactgctaag cagatatatt ccaaaaatgg taactgtcat gtgcacactg   2940
ttggttattt ttaataagcc tcttcctact agaacatttt attttccttg ttcaccatac   3000
aatcatgtac tctttaacag aaattgcttt taaaaaatat ctggaactat ctttaaaaaa   3060

```
actttattaa taatcatgta tttttactga tcacatttttg aaatgcctaa aagactttat    3120
tgttctaatt atccagatgt acctttgtaa aatagctctt ttatgaatta gctgataagg    3180
ctgtatgttt ctggaacaaa atattggtca tctaaaaact ttctgttttc tggggtctgg    3240
gaaaatagaa aataagattt caaatattaa ataagcttaa aggaaccaag catgtgactt    3300
tttatttgta ttctggttga tttgtcttgt ccaagttata ttagaaaagt tgaggagtcg    3360
aggagcctgt aattaatttt cctgtcagtg actgtcagac atcttcctgc ttattagagc    3420
atccctagca acaaggctaa accttcatga cagtgctggc aggtgggctt gccctagcat    3480
gtggggcagg tttgttgttt ttttaatagc tttattgaga tattcacata tcatataatt    3540
catccattta aagtgtataa tcagatgggt tttggtatat tattgatttt taattgtggt    3600
gaaatatata tataacaaaa tttgctattg taactatttt taagtataaa gttcagtgag    3660
gtaggccagc ttttatgacg cacctgaaga taactttggt tttaatccta ccctaaatga    3720
agcatatgcc tctatttttc ctgtccccag tgctgggctt cttcacatac caacatttct    3780
gtgcttttac caacagcatt ttagctcaga aggctcgctt actttgggca tttgctgtat    3840
tttggttttg aaatacttgt aatttgactt attcttggga taatatttta gtttttcagtc    3900
attcaagggc acatttggct gacggagcta ataagcgtaa taaaatgctt agtagtttat    3960
accatctttt agttaaacat tttaaagatt aagactattc aaatgtactt tgcggaaatt    4020
aacctgtttg tatgcctggc tttgtttaca acatatatct atatctatat atatagatac    4080
agatacagat acatatctgg tggaacaaga aatacctgta ccattcccac ttgctctttg    4140
atagccacct cctaggaatg gagacaataa aactctgtat ttgcatgtga              4190


<210> 5682
<211> 4192
<212> DNA
<213> Homo sapiens

<400> 5682
gtggatgggc ttcctcccgc cctgaggcaa gcacctcttc tctgtagctg ggatcaacca      60
caattaatag gaatcctcaa catactaaat agcaggcact tgaaaatggg tgtgtttttct     120
tccattgtcg tcttttctat tgagggttgg gatttgggtg ggagaggaaa gcaaattttta    180
ttttcttgac tataaatttg ttattcttgg tatcatttca tttttataat tatacattag    240
acattggcac ttgtgtaaaa ctgtccctgc agattgagca ggaagtaaaa acaaatggaa    300
atgcttcgga tagtggcagg ggtggggggtt gctaaggaaa gggtgggatg ggagtgggta    360
aagagtttgg gaaggttatc taactgaatc actactgagt tgaatcatgg ctatcattag    420
ccacaggtac tgctgattat aaggccagta aaattttagt acctggaggt ttgactctaa    480
tttttgcact gatggtgcca aagggccctg agtcaaaagg atagccaagg gtggagtgga    540
aaaagatatg gtgaaggcag aactgctcac accagctcca gaagcacgtc ctctgacttc    600
actgccgcag ctctttccac acggggccgt gattgaccct aaaaattgca gaccagcaca    660
tacactggac actgcaggca aggtgttggt aactgcctgc tctaggatga atagtagcgt    720
tagcagcacc ctacagaggg taagtttcag aattgtaatt tgagaactcc ttcaattata    780
ttgactttct ttggttttcc ttgtgcatta ggtatatatt ttttgaagta tttttgccaa    840
ctaaaatgaa gtctgtaaat tctgttaata aacaaggagt tcatccgttg ctcacatctt    900
tcattggtgc cctctgaact ctgtgggttg ctaggatgta attttaatgc ttccctgcag    960
tccaaagatg attttttcac cacaaatggt aagggatgcc cacctacttt tataaacacc   1020
actgcaactt aacaagttta tttatctatg tccagatttc tgtttctgtc ctaaattgat   1080
ctgtgttttt aggtggatca acttggatct ttagacctca tctataaatt gaaattatat   1140
ttttagtcat aagccaagta caatctaact cagaatggga ttaaaaattt tagaagcaga   1200
agctaatata taaatgaagt ttgggatttg gaactttctg tatctcttag gaggaacaag   1260
taaaaaccaa atggttacat tgtgctgcta gaaataatgt cattctcaat taaaagggtt   1320
acacctgtag ccacttgaca ctaacaccat cgagggcaat taatcaggag aaaagtaaat   1380
ataaaaactt tgctcttaac gtcacacact acagggtaat tatgtaattc tctagcactc   1440
aattaagaag cttgtaggtt agcaaaattt cagtttctct agttcagcca gtgtcttgtc   1500
cttagtaatt atttgctttc cctgcagttc aatttctcct tggaactcta acaggactaa   1560
ctggaaaaat actttgacca tagctctagt acttccaaat aaattcatat ctagatttttc   1620
aaacaaagcc ccaagatgaa gtctaattct gaaaatatct cacaattttt gaatgttctt   1680
tttatcttac cgacctaact tctctttttcc ctcccaactt ggcctcccac acgttccatt   1740
tcattttggc cattatagtc acatccgttt gactttggtt gtgacatctt cctttcagga   1800
tgatggaatt agatgcagtc tgtctttgag tgagactggt caccatcaga ggagtttttt   1860
ctaagtgacg tgactagaag ttgaaatcta cttccctgct aaagggcaca ggggtggtgt   1920
acaaagaaag ctaccttccc agagcaagca ggctgcattt tagctatgga agtgacctgc   1980
tgtgacactg tgctctcttc tgtgggctta atggttcctt tgctatgaag tggcaaatta   2040
```

2606

```
catgtagagt gtctccttcc ttttcagaga acagttaatc aaggcaaatc agcaagcccc    2100
caaagtgctg taatttaaca tcatgattac caccttcgaa gctatatatt ttgcatactt    2160
taaaatcacc taacttggac tgcttgaatt acattggctt ttagaaccga aattgtaact    2220
atgtattgta tttcatggga ggtatatttt atgagctttt tggctttctt ttttcccaca    2280
gcaactgcca atgaaggatg aatccccttt ttaaaaagtt gttgttgttg ttgtttattt    2340
gattttgagt taggagggat aatagagaag tccatttaaa aattattttt agaagctaaa    2400
gaaagtaatt atgcttcctg tgaattgtct tttactggca tctttgtttt cctctttgat    2460
gttagtaaat ttggtgtaat acgtggggct tccatatttc aaagtggaag ctttcttctc    2520
tgaagtcgat atatggtttt gaattactag agctttggtc agtatttcct tccctatatg    2580
tcacagaggg caccactgag aactgcgtgc ataggacctc aaaatacaaa attagcaggg    2640
cctcacagtc agcttcctca tggctagttt ttccccctta tattacaatt tttgtttttat    2700
aagtcatttt tttcctgata tttccaccac ttttcagagt catctacaaa atttttcttt    2760
cctcaagaaa agagttcctt ttgccttatt ccttatgcct tccccactgg tattgagggt    2820
tttgataata aattggtagg aaaaaaaagt acctcctaga aggaagcctt ccccaccatt    2880
tccaggtgcc aactgctaag cagatatatt ccaaaaatgg taactgtcat gtgcacactg    2940
ttggttattt ttaataagcc tcttcctact agaacatttt attttccttg ttcaccatac    3000
aatcatgtac tctttaacag aaattgcttt taaaaaatat ctggaactat ctttaaaaaa    3060
actttattaa taatcatgta tttttactga tcacattttg aaatgcctaa aagactttat    3120
tgttctaatt atccagatgt acctttgtaa aatagctctt ttatgaatta gctgataagg    3180
ctgtatgttt ctggaacaaa atattggtca tctaaaaact ttctgttttc tggggtctgg    3240
gaaaatagaa aataagattt caaatattaa ataagcttaa aggaaccaag catgtgactt    3300
tttatttgta ttctggttga tttgtcttgt ccaagttata ttagaaagt tgaggagtcg    3360
aggagcctgt aattaatttt cctgtcagtg actgtcagac atcttcctgc ttattagagc    3420
atccctagca acaaggctaa accttcatga cagtgctggc aggtgggctt gccctagcat    3480
gtggggcagg tttgttgttt ttttaatagc tttattgaga tattcacata tcatataatt    3540
catccattta aagtgtataa tcagatgggt tttggtatat tattgatttt taattgtggt    3600
gaaatatata tataacaaaa tttgctattg taactatttt taagtataaa gttcagtgag    3660
gtaggccagc ttttatgacg cacctgaaga taactttggt tttaatccta ccctaaatga    3720
agcatatgcc tctatttttc ctgtccccag tgctgggctt cttcacatac caacatttct    3780
gtgcttttac caacagcatt ttagctcaga aggctcgctt actttgggca tttgctgtat    3840
tttggttttg aaatacttgt aatttgactt attcttggga taatatttta gttttcagtc    3900
attcaagggc acatttggct gacggagcta ataagcgtaa taaaatgctt agtagtttat    3960
accatctttt agttaaacat tttaaagatt aagactattc aaatgtactt tgcggaaatt    4020
aacctgtttg tatgcctggc tttgtttaca aacatatatc tatatctata tatatagata    4080
cagatacaga tacatatctg gtggaacaaa gaaatacctg taccattccc acttgctctt    4140
tgatagccac ctcctaggaa tggagacaat aaaactctgt atttgcatgt ga          4192
```

<210> 5683
<211> 279
<212> DNA
<213> Homo sapiens

<400> 5683
```
ggggttcaag cgattatcct gcctcccgca tgaaatgggg ttttgccatg ttggccaggc      60
ttgtctcgaa ctcctgacct caggtgagcc actgtgtccg gccctgttgt ggtatgttga     120
agtatataaa gaaaatccag gttcacacgg atacatattt ttaaatggag aaatattgga     180
atagcctttt cagataatta tggatattct tctttgatac tgtacaaaat ttggcaagtg     240
atagttcctt caaagatagc tgcagtgtgg aatctgaaa                            279
```

<210> 5684
<211> 972
<212> DNA
<213> Homo sapiens

<400> 5684
```
agaaggtgga ggaaagttac accattcttt gccaaaggct ggctggatca gccctcacag      60
acaagcactc aggtatgtaa aagttgtgag ttccagactc tagactaatc atcctacact     120
gaatgaaatg acttatcata ctttgaagtg aaaaccttct gagattccat ttctcttctg     180
tctttaaaga actgcctgtt tctaaacatc agatatcaag cggaagctca tgcctgctga     240
```

2607

```
ctctactctt ctctaagagg aactgcagtt gtcagttccc ataccatccc ctcttctctc    300
tcttttcacc ttttcaaagc agaaggcaga gcagtgggaa gcctggtaaa tcacagattc    360
ggtgtgaggc ttactggtac tgctgtgact ccctagtgtg gaggatttgg ccttattgga    420
tgttggtgca cttgcctctg ctgacagtgt ggctggtgtc tcccctgact gcagatggat    480
ttgtgttccc tgcagcagtt tatactcatc tgcttacata ctgattcaga aacaaagatt    540
gaaccacgcc cacagatgtc atgggtattc tttgcaatgt tagtatattc ttttttcttaa   600
tatcatttcc atgtatcttt attcttctca gataaaagtt agagccgcat gtcctggagg    660
tgactgcagg ttgttggatt tggagtatcg gccgtgtctc accacatcct ggctccagtg    720
tggatgcaga gagagtgtga cagaggatct gcctgtgaac cacctgggat tagtcaagtc    780
ccaaggtgcc cagagtggga ctagttcttc acagtgtggc agctgcacta atctgtttgt    840
gagggaatat ccattccctc actctactct cctcactatc ggaaattcat tttgattcag    900
aataaaaacc aaatgtatag agctttgggt gtaggatatg aaattgtact tagatttaag    960
aaaaagagaa aa                                                        972


<210> 5685
<211> 279
<212> DNA
<213> Homo sapiens

<400> 5685
ggggttcaag cgattatcct gcctcccgca tgaaatgggg ttttgccatg ttggccaggc     60
ttgtctcgaa ctcctgacct caggtgagcc actgtgtccg gccctgttgt ggtatgttga    120
agtatataaa gaaaatccag gttcacacgg atacatattt ttaaatggag aaatattgga    180
atagcctttt cagataatta tggatattct tctttgatac tgtacaaaat ttggcaagtg    240
atagttcctt caaagatagc tgcagtgtgg aatctgaaa                          279


<210> 5686
<211> 972
<212> DNA
<213> Homo sapiens

<400> 5686
agaaggtgga ggaaagttac accattcttt gccaaaggct ggctggatca gccctcacag     60
acaagcactc aggtatgtaa aagttatgag ttccagactc tagactaatc atcctacact    120
gaatgaaatg acttatcata ctttgaagtg aaaaccttct gagattccat ttctcttctg    180
tctttaaaga actgcctgtt ctaaacatc agatatcaag cggaagctca tgcctgctga     240
ctctactctt ctctaagagg aactgcagtt gtcagttccc ataccatccc ctcttctctc    300
tcttttcacc ttttcaaagc agaaggcaga gcagtgggaa gcctggtaaa tcacagattc    360
ggtgtgaggc ttactggtac tgctgtgact ccctagtgtg gaggatttgg ccttattgga    420
tgttggtgca cttgcctctg ctgacagtgt ggctggtgtc tcccctgact gcagatggat    480
ttgtgttccc tgcagcagtt tatactcatc tgcttacata ctgattcaga aacaaagatt    540
gaaccacgcc cacagatgtc atgggtattc tttgcaatgt tagtatattc ttttttcttaa   600
tatcatttcc atgtatcttt attcttctca gataaaagtt agagccgcat gtcctggagg    660
tgactgcagg ttgttggatt tggagtatcg gccgtgtctc accacatcct ggctccagtg    720
tggatgcaga gagagtgtga cagaggatct gcctgtgaac cacctgggat tagtcaagtc    780
ccaaggtgcc cagagtggga ctagttcttc acagtgtggc agctgcacta atctgtttgt    840
gagggaatat ccattccctc actctactct cctcactatc ggaaattcat tttgattcag    900
aataaaaacc aaatgtatag agctttgggt gtaggatatg aaattgtact tagatttaag    960
aaaaagagaa aa                                                        972


<210> 5687
<211> 5850
<212> DNA
<213> Homo sapiens

<400> 5687
ccaccacctc atagcctagg cgcacaaaga agtccagctg ctccttccag atggccaggg     60
aaccgccgac accatggatg aaaaagagca ccacgtcggc ctgggcgcct ttgcagctag    120
```

2608

```
tgatgcgctt ctcacagtca atatggatgg tcctcttggg gcgcctggct cgccgccgcc    180
gcccaccact gccactgccg ctgccgctgc ctgcgctgcc gggggccaag cggccatcgc    240
tgcccgccgg atctgccagc tccacctcca gggcggccgg cggctcccca gagccattct    300
gcccgtgtag gaggtcggct cgaggggctc ggcccaggtt ttccaccagc aaccgcccat    360
tgcggtacac ggtgatccgg cgctgacagc ggaccaagcc ggagaggtcc ccctgggctg    420
catccgagga tgcggatgat ggtggaggtg gggcagcggc tggggcgggt cctgcatgct    480
tcacccgcag cacgcggccg ggcttgacct ctacaaaggt gtagccatcg ctggactcga    540
cgctctccag tggccccacg gcgttggggg gcgtgcccag caggcaacag aagataccgt    600
cggtcacccc ggtcagcatg gtgtgtcctg tgagtgagga cagcagccag ttcaggtgct    660
gtctcaatga gaaccctgca ccgtgcagca ggcactccct gagccttggg agaactgttt    720
tagactccag tttggggagc gccagatcaa gtgagccacg gcactgagat ttttttgttt    780
gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtttttgaga cagtctcgct ttgtcatcca    840
ggctggaggg cagtggccgg atttcggctt actgcaacct ccccctcctg ggttcaagcg    900
attctcttgc ctcagcctcc tgagtagctg ggattatagg caggtgccac catgtctagc    960
taattttttgt attttttgta gagatggggt ttcaccatgt tggccaggct ggtcttgaac   1020
tcctgacctc aaattttcct cctgcttcgg cctcccaaag tgctgggatt ataggtgtga   1080
gccaccgtgc actgacatgt tttgtctgag cagtgccttt gtggtagtta ccctcctggg   1140
tcaccctagt ctatcctcag agagaaagac ttggctatgg cttaccccac agggtgtcca   1200
cagggaaggt ggtggcgtct tgtgtgggga tgttcctgga gaaggggaca ttgtggcaaa   1260
tgtggaccag ccggaagaca ccccctcccc ccagctggag tttataccat ttatggcctc   1320
ctaactcatt cattcaggta tacactaact catccattca ggtatacact aactcattca   1380
ttcaggtata cactaactca ctaactcatc caggtatgca ctcactaact cacatatccc   1440
cagggcctcc taaggcatct aaaatatgca aatctttggt gagccccag tgaggctcct    1500
ggctctgaat ttgactcctg aaaggtgagg ccctaggaga gggggatggg gactgagcca   1560
cagaaagcct tgctcagctc ccctagaccg gggtgagccg gggtctgttt catagagggc   1620
caagctgagg cccagacact ctgagaggaa gctagactct gaacttcctc cttggcaccc   1680
tggattctgg ggatctgcta tacaagtccc cagaggtggc gaagaggatg ggagaggcag   1740
ggccctggct gggggcctcc aagcctccat cccactcctt gggccacccc cgcccccgtg   1800
tccatggcaa ccacaggcgg ttacataacc taagggggggg atacccgagc agtgcacccc   1860
cattgtcgag gtgtctaggg cctggagatg ggaccagctg cctgcctgcc ccctacccca   1920
ggttgggcgc cgctaaggta acgcacgccc gagactgagc cgcagtggcc ccagacatac   1980
tggaggggaa gcaggccatg cccccacct cgagtggggc cctaatcccg gattgtggag   2040
ggcaacgcac aggcgccacc ccagccccgc ttccccgccc ccggcccccg ccttccaggt   2100
gttcgtcatc cctgcagcgg ggtcgagccc actggggctc cgtggcttcc tacgagccca   2160
aacgcggggt tggtggacac cactcctccg aagtggaggc cccgggggctt cgatctctcc   2220
ttttggggcc cgttccccgc tcacctcatc gagggccgcg gggcccgggt cggggcggag   2280
gggtcccagg cggagaagcc agcgtccgcc tgctggcgcc gtttacatgg tggcgcgggg   2340
tcaggccggg tgcgtctacg cgggcgggca cctgcccctg gcggtcagcg caggggcatc   2400
ccgcggccgc cgaaacagcc ggccctttaa gttcctcccc cgagtaggcg gagccacgtg   2460
ccgacgggcg ggcacttcgg cctatcgcag ctgcggactg acctggccta gttaggagcc   2520
caatgagagg cggcaattcc gtagtggagg cgggctctgg gagcaacggc cccgcccctt   2580
ttggggggttc accgaggttg ggggagggat ggggcctggc tcaaggcgga gaaggggggtt   2640
gcagtctagg gtctgcggga cgcctgggag tgtgcggccg gggccctctc tctgcaaatg   2700
ggtctcccaa gcccttgccc cccagcccct gcctcccaat tgccctgttc ctctccaaac   2760
gaggccccca tactcttctc tctgtattga ccttttccatt ctagaagcag agactccaag   2820
atcttttttcc aatctccggt ggggaaactg aggctcataa agggcacaag agcataaatc   2880
aagcaaggag caaagctggg acttgaaccc aaggctgtgt gattccaaac cctgggaacc   2940
attatttgct aacctccccc ctacgccccc ccctttctt ttggtaggga cgaggtctcg   3000
ctatcttgcc cagactggtc tcgaactctg ggcatcaagc aatcctctcg tctacggcct   3060
cccaaagggc tgagatcact ggcgtgagcc atcgtgacgg gcttctctaa agctttcaag   3120
gaaagtcttg gagctgtggg taattagaga gtttgaattt cataatcagc cgatttaacc   3180
catggctgcc atggttctga gaagggctga tagcaagagg caggcatccc agctctgtgg   3240
taccggcggg gccatggtag gccctcagga gagctcaggt ctcaaatcca gcctctgccc   3300
tttgctgatg tgtgacctcg ggcaagttac ttcactttcc tgagcctccg tttatttctc   3360
tatgaaatta atcctctcat aagtttgcta cgcaggtaaa gcactcatca tagtgtcgtg   3420
catataacaa atgctccata tattatgggc attattatag tggtgatgtt ttgctaaacg   3480
atgctacagg taggatgggc ttcggaggac gaggggttaa atgctccttg ctgcttggcc   3540
actcacatcc cctggaattt gctgccagag ctggattccg tccagacacc tactcttgcc   3600
cactaagggc acttctggga gactatacag tttattcatt tagcaaacac ctctctgcat   3660
gaaccccaag ctggcacttg tagggataca gccccaggcc cctggccctt gaggagccct   3720
tgaacttggg ggagagtcaa gggaaagcag tcgggccaga agaatggaca gcggttgaga   3780
```

2609

```
actgattctc cttcctcagc ctcccgagta gctgggagta caggcatgca ccaccacacc   480
tggctaattt ttgtattttt tagtagacac agggtttcag catgttgctc aggctggtcg   540
agaactcctg acctcaagtg atccacccac cttggcttcc caaagtgcgg ggattacagg   600
catgagccac tgggctggcc tgttttgttt ttgtttttga dacaaggttt cgctgtcgcc   660
taggctggag tggtgcggtg gcgtaatcat agctccctgc agccttgact tcctgggctc   720
aagagatcct cccacctcag ccttctgaat agctgggact acaggcatgt gccaccatgc   780
tcagctaatt tttaaaaatt tttttataaa gacagggtct ccttatgttg cccaggctgg   840
tcttgaactc ctgggctcaa gtgatcctct ggccttaacc tcccaaagtg ctgggattat   900
aggcgtgagc cgtgacaccc ggcctggtga gggggttcat gtcctccccc tacccagaag   960
gcaggtcctt ggaagccaag attcttcccc tggggtccat ggacacctga aggggtgagg  1020
gatgagtgcg gcctctcaaa taccgtgaaa gtgtgagttt gagtgttgag gatggaactt  1080
attttgaaga gagaatctgg atccagaagt ttcaccagac ttttattttt aattgtttaa  1140
aattttgta gagatggggg tctcactatg ttgcccaggc tggtcttgaa cttctgggct  1200
caagtgatcc ttccaccttg gccttccaaa gtgttaagat tatagatatg agccactgtg  1260
cccggccctc atcagattct tcaagccacc atgacccaaa agcggtaaga attactcatc  1320
agcaagtggt aggaaagcaa tctgattaaa caaatgcttc cggctgccca ggggaggtca  1380
ctgtttccta ctatcccttc cctttcagga tgttctgcca cctgcctctg ggcatgacat  1440
atctgtcttc cttatacaag atggaaggcc tgagaagccc ccaaagctga gctcctcatt  1500
cctacaaaag caggggtcaa caaactatgt acggcctgtg ggctagtcat ttgctttttt  1560
aaatacagtt tacacttttg gagatttgaa aaatgtttcc taaataaggt tttttttttt  1620
ttttttgaga tggagtcctg ctctgttgcc cacgctggag cacagtggcg cgatctcggc  1680
tcactgcaac ctccgcctcc cgggttcaag tgattctcct gtctcagcct cccgagtagc  1740
tgggattaca ggcatctgcc attatgcccg gctaattttt gtattttag tagagacggg  1800
gtttcaccgt gttagtcagg ctggtcttga actcccgacc tcaggtgatc tgcccacctt  1860
ggcctcccaa agtgctggga ttagaggcgt gagccaccgt gcctggccaa aaaatgtttc  1920
ctaaataaag ttttatcaga agttccaaca gtgactgtat ggcctgcaaa cctaaaatat  1980
tcgctatccg atcctttaag gaaatgtttg ccagcccctg ctgtaatgag gaaaggatac  2040
agacaggagt caggcagacc tgattgtgtc agggacttcc tgtatgcctt tgggcaggtt  2100
gcttcacctc tctgagcttc agcctccaca ttcctgaagt tgtaaatgtg ctgacctaat  2160
agcactgtta tggggtcatg ggaactattg taggtgggtg ttttttttgt tttttgttt  2220
ttttctcgag acagagtctt gctctgtcac tcaggctgga gtgcaatggt gcgatctcgg  2280
ctcactgcaa ccccacctc atgggttcga atgattatcc tgcctcagcc tcccaagtag  2340
ctgggattat aggcacctgc aaccataccc agctactttt tgtatttta ttagagacgg  2400
ggtttcacca ttttggccag gctggtcttg aactcctgac cttgtgatcc gcctgcctcg  2460
gcctccaaaa gttctgggat tacaggtgtg aaccactgtg cccagcaggt gggtgctcat  2520
ttaattagag gaatcatttc tcataagcat caacttttga gtatgttata taaagaaata  2580
taaacaaata agagctgtta cctctcagtc tagattcctt tcttttagat acttatgtaa  2640 `
cttctttgtt ttctttctt ttttttttt ttttactttt tagttttttg tagagatgag  2700
atcttgctta tgttgcccag gttggtcttg aactcctcag ctatagcagt cctcccacct  2760
cagcttccca aagtgttggg attataggtg taagccacca cacctggcca cttatttatt  2820
tttctttttt ctttttttt tttttgaga tggagtctca ctctgtcacc caggctggag  2880
tgcagtggca caatctcggc tcactgcaag ctccacctcc tgggtgcacg ccattctcct  2940
gcctcagcct cctgagtagc tgggactaca ggcgcctgcc accatgcctg gctaattttt  3000
ttttgtattt tttagtagag acggggtttc accgtgttag ccaggatggt cttgatctcc  3060
tgacctcctg atccgcccgc ctcggcctcc caaattgctg ggattacagg tgtgagccac  3120
cacgcctggc cttttttct tgtctaattg cataggctag aatctctaaa acagtggtgc  3180
tcaacttgcc tggctgttca atcttgcctt tcttcctgga taaaggagag aatgaggcca  3240
cttggtagtg gtcaagccct ggggaccaag ccttccatgg aggggttctt ggtaagtttt  3300
aggttgtatt acctgccctt taagcaggag tgaattacag taacccatgc ctttgtaaat  3360
gcctagaatt tacaggattc cgatgagcgc ttcctgaatg cacagtgttc tccagggcag  3420
ttgatttttt aacttagtct aaggcagtgg ttctcagctg ggggtaattc tgcccaccag  3480
ggcacgcttg gcaactactg aagacatttt tgactgtcat gatcaacact agattgtgta  3540
gttgcatcca gtgggcagaa gccagggatg ctactaaaca tcctatagcc cctcacagaa  3600
aaaaaataac ctggccaaac acgatagtgc tgggattgaa caacactgct tttttttttt  3660
tttttttttt tttgggcaga gtctcactct gttgctcagg ctggagtgca gtggtgtgat  3720
cttggctcac tgcaacctct gcctcccagg ttcaagtgat tctcctgcct cacaccccg  3780
agtagctggg attacaggca caccatca tgcctggtta attttttgta cttttagtag  3840
agatgggggtt tcaccatgtt ggccaaactg gtgttgaact cctgacctca agtgatctgc  3900
ctgctttggc ttcctaaagt gctaggatta caggcgtaag ccactgcacc tggcctgagc  3960
aacactgctt tagaacaatg tgaaacaata tcagtgatga cggaaatccc tgtctgatta  4020
catatgctaa tgggagtttt cagcctggta tagcggctca tgcctgttac cccaccacat  4080
```

2611

```
cgggaggcca aggagggagg atggcttgag cccaggagtt caagaccagc ctgggcaaca      4140
taatgagacc ccccccccat tctctatata attttttttt gaacttgaaa attggcctgg      4200
tgcgttggct cacgcctgta atcccagcgc tttgggaggc cgaggagggc gaatcacgag      4260
gtcaggagat cgagaccatc ctggctaaca cggtgaaacc ccgtctgtac taaaaagaca      4320
aaaaattagc caggcatggt agcgggtgcc tgtagtccca gctactaggg aggctgaggc      4380
aggagaatgg catgaacctg ggaggtggag cttgcagtga gccaggatca cgccactgca      4440
ctccagcctg ggggacagag tgagactcca tctcaaaaaa aaaaaaaaaa aaaaaatta      4500
aggctgagca caatgactca cacctgtagt cctagcactt tgggaggctg aggtgcaagg      4560
atcacttgag cccagtagtt aaagaacatc ttgggcaaca tagtgagatg ccatctctat      4620
ttaaaagaaa aaaaaatttt aaaaatgtaa aaattaaatt gaaaaatggg attttttttca      4680
aggagaaaaa ttaggatttt tgtttgcttt gttttgtttt aggagataag gttttgccat      4740
gttgtccaaa ctcatctcca atgatccatc cacaaagtgc tgggattaca aatgtgcacc      4800
accgcgcgtg gtggcccctt ttttttttt catgacggag tctccttctg tcgcccaggc      4860
tggagtgcag tggcacaata tgatcttggc tcactgcaag ctccgtctcc cgtgctcatg      4920
ccattctcct gcctcagcct cccgagtagc tgggactata ggtgcccacc accacaccca      4980
gctaattttt tgtattttta gtagagacag ggtttcaccg tgttagccag gatggtctca      5040
atcttctgac ctcgtgatcc gcccgcctca gcctcccaaa gtgctgggat tacaggc      5097


<210> 5690
<211> 11799
<212> DNA
<213> Homo sapiens

<400> 5690
actcggcggg ggaggggtcg tgtacattgt cccaccaggc gcaatgtagc cgggcggcgc      60
agaggatttc ttttttggtc ttgagagcat agagtccctt ttcatattca cgtgtactct      120
taagaaagcg tctgttctcc aaactggctt tccattctcc ccgtcctaaa tggtgcgtgg      180
ctgacaccgt agtgttttca aaactggata tggccaggat gctatagcat tgtcagtgta      240
agtccctttt gggtattttt atttaattgt gtagtgactt gacagaagtg tttcccagct      300
tgacctaagt aatgaatttg cataggattt cagcatcagt atggaagtga tcagatgtca      360
gtggctggtg ccaccttgca gataaatggc cactggtcca cgtagttcgt ctttactata      420
cattttgatt aagttctcta ggaccagctg actggtaatt ataagtcaca tgaaaccctg      480
cagagatgag agcttacatt gaacacttct taacaagttt tctattcttt gtttcatctg      540
ttacaattaa actcaccttc gtctagggta agaccattac tttacgcaat aacatactag      600
cttaatttac ggtatttata tgtatttata tatattgtat atacataatc atacatataa      660
ttctataaca tttagtttga ctctaaagtt ggaaaatcag gaaaataaca ggtgatgttg      720
agtactgatt gtttgccggg cctgtgccaa atggtgtgca tgctttatgt aacttaatct      780
aaaaaaattt gaatacgtga gtttgatttc agtgtgtcca aatgtgaaac gtgtacatta      840
ttgttattgt tttgtttttt ttgagacggg gttttgctct cgttcaggct ggagtgcaat      900
ggcactgtct tggctcactg caacctccgc ctcccgggtt caagcgattc tccttcctta      960
gcctcccagg tagctgggat tacaggcgcc cgccaccacg cccagctaag ttttgtattt      1020
ttagtagaga cggagtttca ccatgttggc taggctggtc tcgaactcca gacctcaggt      1080
gttccgcccg cctcggcctc ccaaagtgct gggattacag gcgtgagcca ccgcgccggg      1140
caaacgtgtg cattaaatgc ttgtttatgc ctttgtaaaa taagagtgtt ggcaatataa      1200
aatgttaccc atagagtaaa ttaatgtgtt tttcaagttg gaagatggct ttaaaaattc      1260
atagaagtac aattagtccc tttatttagg tgctgaatag tttccaaagc cccgtgtctc      1320
ttatttatca gagtttctat tatataacat tgtcacccag tgaacaggct atgctaggac      1380
attggaaaaa ggtaaatatt gagaaagccc taatggtcct ttcttaaatg gcccctctt      1440
tccatatttta atttctaagt gacattccta attaagggta aacaaacata atgaaacaag      1500
gctaattttc caataccaaa ctaaaaaaat aaaaaacagt ggactggcta ttactttgtt      1560
gatgagtcta gcacagtttt actgggcatt taaatgttaa ggatgttatt tacattgtag      1620
ctagttgtga aagatttgtg tgtctaagtt tttagtttgc cttaaatgt cttgaacata      1680
tgcttagtat tgagtccagt actttgtgca ttaatagtaa gttttttgat tggatttaat      1740
tgaacagttt tggcttcctt aatttatttt tgaagataga atttaatgat ttgtgtaggc      1800
ataacagtta caattaacag tgattccgag atgagcgtag ggtttaactt aacagttcac      1860
attttcttgc gagttgaaag gactggagag ttggatgtgt gtcttctttg tgattaaaaa      1920
agcatgctgg aacttagcta tcagaagatt ctggtggtcc atctttggga agaggaaaag      1980
attaagaatg ctttgctagt cagtatttac aagagggttt ctttacttaa aggcatttc      2040
tctttgggga ggggaggagt tgagagttgt cattaatgga aggatcttag aataaaaaag      2100
atgtatacat gttttccttt ggagtgaatt tgtgactgga gatggggttt cactgtgtta      2160
```

2612

```
gccaggatgg tctcgatctc ctgacctcgt tatctgccct cctcagcctc ccaaagtgct   2220
gggattacag gtgtgagcca ccgtgtctgg cctatgtgct tttttaaagat ggaactgatt   2280
tagaatgcag tatattacag tacatgaaaa aatttttggaa tttctgtatg tttttcactg   2340
ttggaaagcc atagtgagtg taataacagc attggctcct gttcataagg catttaaatg   2400
atgtgtttcc tatgacagga agacaagcgt ttctcattcc ttcaaaattt ggctctcaga   2460
tggagtgccc tttaagctcc ctgaatgcag ggacttcttc tgtttcactc attgtctttt   2520
ttctggggcc tagaacagaa cctggcaaac tgagagtgct atgtaaacct ttgtagaatg   2580
agcactttcc ctggggaatc ctctctccac tttccactag tgaagatccc acctgctttt   2640
aggtgcaggg ccactccagc ctgactttct ctgcaatctg cagcccacaa tgattctttg   2700
aacattaact gtgtatacca cactctgtga cagtgaatct tttatagctt tatattgata   2760
catgagtgtt tcatgtattt tgtttcctca cccaaaatat aagctcttca aggctacagg   2820
atatcctatt tttgagaatt gccttggtat ccagtataat atataatatt atataatacc   2880
tataatatat aatgtaatat atgtaatata taatatatat aatatacatg tatatataca   2940
gagtaggttt atatttacct attaaatgaa tgttacatac cgtgggggaaa catcaaagat   3000
actcaaaatg gtaggttata ttttagttag gcaaacctag tgtacacatg tgaaacagta   3060
ctagaatttg gagctaaata agagttaata cttatgtcgt gcttaaaatg tgaacctcac   3120
aacaatcctt tgaagtaggt acaattattt cctcattttt cagaggaaga aatggagaca   3180
cagcaaagta attaagtttg ttgctcaaga tcgtaccgga aatcataagt aggcagtctg   3240
gctccagagg cggtgtggtt tctctgggga gctttacttt atacttcgaa gggacatcta   3300
agcactactt ttgcagctgt aagagatgct cttttaaaaa tttcaaagta gcgtaagaga   3360
ttgcagtgtc tctaaactgc agaaggaatg ctggattttc tatatagagg acattgataa   3420
tggaatggtt aaggggacat tatatattga aatgactaaa gatggtggag agaaactgaa   3480
gtttgaatct caaagctgag gattatgatt ttttatagat actgaattct agaacagtga   3540
ttcaccagga cataggacaa tgattgcttg ttactaattt agtatcaaaa aacttatgcc   3600
aaataaaata atattgaatg acactggata tcttactgca tttctttttt taaacactta   3660
ccagatttga agccctagtg gtagtaattt accttaatgt gggtattact aaaggtttcc   3720
tatacacttc tgtccatttg ctttatcttt ttgtggaatc ttttttttttt ttttttttttt   3780
tgagacaggg tctcactctg tcgcccgggt tagagtacag tagtgtgatc tcactgcagc   3840
ctctgcctca agcaatcctc ccacctcagc ctccagagta gctgggacta caggcacgca   3900
ccactgtgct cagctaattt ttaaattttg tgtaaagatg aggtctcact atactgccca   3960
ggctggtctt gaactcctgg gctcaaacaa ccctcctcct gcctcagcct cccaaagtgc   4020
tgggtacgtc agtgagccat tgtgcctggc cttttttgtag aatcttttttt ttttttttttag   4080
acagactccg gctctgttgc ccaggccgga gtgcagcagc gcgatcttgc ctcactgcag   4140
cccctgcctc ccggattcaa gcaattcttc tgcctcagcc tcccgaatag ttgtgattac   4200
aggtgcttgc cactacgccc agctaatttt tctattttta gtagaagacg gggtttcacc   4260
atgttggcca ggctggtctc gaactcctga cctcaggtga tccacccacc ttggcctcct   4320
aaaagtgctgt gattacaggt gtgaaccact gtgcccaacc tttttgtaga atcttgattc   4380
acttttttcag gttgtattga gcaatagaga atgctgttgg ggtcaggagg tctcttcaaa   4440
ccaagtaata ctcctttggt ggaaaaaaat gtaaaattgt gtgattgatt tggtgacaca   4500
cctggaataa agtcagtttg aagctgttta gaattagatg agggcctata aatttcagca   4560
agatgaagaa cagtggtatt tctctgaaag tcccagtatg tctcccttttt gttgggagct   4620
gacagtatga ttttgggggc atcgggcatc aacagtcact gaatctaaat ggctccacag   4680
ataggggagt gtatacatca ccacaccagc tgtccaggaa ttaggaggaa gtgcccttga   4740
atgaagcctg ggctgcaagc ctggttagca gccagggagg acacacacac gttgcaggta   4800
cagtattctg tattacacag attgtttcta ctgggaagga tatcatatca tttatcttgg   4860
gggtagcttc agaatttgag tcagtgatga aatgacttgc tgctttcgtt atgctccctt   4920
aagaagaaca tcatatattt cgggatggcc tgcataaaag aaacttgtaa taatgaatat   4980
tgacctatac cttgtgttct gtttaagtat ctgaggaagt aatttggaaa acttgagtta   5040
aaatagtcta tattgtagtt tttatccaat ttgcacgtta gccctaatct tcatttcaga   5100
ctcttccctg aatgggaaac ttttagggaa agagagaatg atacactgat taatttattt   5160
tcagcctacg aagctaggat aatttaatga aatctctacc agtcccatgt tatgaatttt   5220
agggttggag agctggattc tggacgtgat ctattctta actaggaatg tacagcagaa   5280
tgacccaggg tttatcctga aagtagcaga tgtcttcact taactcctga gacgcaaatt   5340
tggtagagct gctgccacag gccccggaca tcagtattaa accatcctta agtgattctg   5400
gtgccttttc tccagtaaga agaaccagcc ctgtatttta tatttaagaa aacctgggca   5460
aacaaatgac ttgcctagat ttggttcagt ggtaccaaga tttagtcacc agataataca   5520
gtttcagaat cctatggctg gaagaagttt accaagtcat caattcagta gttcatctta   5580
cagcggagtg taaaccatgc tttttcaatta tttgcggttc tttttactgta taccctgtga   5640
tgcccttta agttttttttg aaaatattgt atacttaaaa ctgaagtgaa acattaaaat   5700
ttcttattag aattattttt cagtcttagc tgaaatacaa tattgtatga aaatttgcac   5760
tgcattatta gtttttttttt ttaatctagt tgattttcaa cttttcttttt ttaaaggcat   5820
```

```
ctccttggaa acaatgccat ctttgaatgt gagagataaa cctagtttca gcatgtctgc   5880
agcagagacc agtacatcag gcttattccc acaggaagcc tcctaaagcc tgtggcgcgg   5940
caaccatttc caggactaaa taataatgtg tcagatgcct gtgagtggac tgcctggcca   6000
aatgactcat gaagatattc acggaagaat agtcaaaaac caaagaaaag gcatattcta   6060
gaagcacctt caattccatc gaggattttt gagcagctga agaagaaagt tctgaaaata   6120
tgagtgacag gactccagca cattttttt agttgtttct tacattatct ttgttaaccc   6180
atccgctttt gtgtataata ttaagttatt ttccactact gcaatggcta gtaatttact   6240
taggctcaga gttttactct gtatggacag agaaatagga ggtaacaaca gtgggagaac   6300
aaataggaac agttcactgg gatgttggtc cccagaaatt ggctttcatt gaataattcc   6360
taaagggtgt cgtgtgctga attgcttttt catagtgatg tgctgcttct tgttcatact   6420
cttatgactt taatttcacc tttatctact cccagcctct gtatatgcct acgtttttaa   6480
aaataatttt tggcactgaa gatctgatta ccatattttt tcagtttaaa aattaaatcc   6540
tcgcaaatag atctttggta tagttgcatt ctaccctagg ttattttcta ggatcaagaa   6600
tagaacaatt tctgttcttt ccagcattac tctttactat tcatatgttc ttgttcagtg   6660
ttttgttgtt ctcatattct aggtggaaat gaagggtaat ctctatgttc tattttcagt   6720
tttctaggaa accagaaaaa catgggtagt agaaatgtat agaaatgta tgaggtctct   6780
taaccattgt gttaaacttg cattaagctt cttttttagc aatatcgatg tcagtgttac   6840
ctcttctttc cttttattt attttttttg agacagagtc tcattctgtc gcccagactg   6900
gttggagtgc gatgatgcga tcgcggctaa ctgcaaccgc tgcctcccag gtacaagtaa   6960
ttctcgtgcc ttgggctccc gagtagctgg gatttttagt agagaacagg tttcaccata   7020
ttggccaggc tggtcttgaa ctcgcaacct caggtgatcc acccacctca gcctccccaa   7080
agtgttggga ttacaggcat gagccaccat acctggcccc ttttgttgtt ttgaggggca   7140
ggcagtaaga agcagggatt tcttcaaatg ctagtaagca caaagagagg gagaagtttt   7200
tgtaagtaac gaacagggcc gggcatggtg gcgtgagagg ccgaggtggg cagatcacga   7260
ggtcaggagt tcgagaccag cctgaccaac atagtgaaac ccccgtctcc actagaaata   7320
caaaaattag ccgggcatgg tggtgcacgc ctgtaatcca gctagtcagg aggctgaggc   7380
aggagaatcg cttgaacctg ggaggtggag gttgcaggga gctgagatca cgccactgca   7440
ctccagcctg ggcgacagag taaactcccg tctcaaaaaa aaaaaaaaa aaaaagaac   7500
agttgatcat taaggccatt aatgtgcatg gacagttgt tgcccaggtt ggagtgtgat   7560
gacgacgcaa tctcggtaaa tataaaccta ctctgtaacc tccacctcct gggctcaagc   7620
agttctcgtg cttcagcctc ccgagtagct gggatcacag gcatgcgcca ctaagcccag   7680
ctaatttttg tattttttagt agagacgggg tttcaccatg ttggccaggc tggtcttgaa   7740
ctcctggcct caagtgatgc gcctgcctgg gcctcccaaa gtgctgggat tacaggtgtg   7800
agccactgca cctggcccaa taggcacatt tttttaataa gtagtttgtt gattagaacg   7860
aagagcactt gccgtaagtg catgtcattg ttttcagctg ttatggctaa gtcagttaac   7920
ctcatcaaca atttttttctt ctgtaaattg aggacaattt ttgctttat gaatgaagtc   7980
ttaaccagca ggaagaaata taaacaaagg aacatatttt taatttaatg aagcaaaatt   8040
ccatacatca ttttgaaaat agtgtttctt tccctgatag gcctgttctg catcattctt   8100
ttagcttcct tctgccctgt ttatcacttg gtcccacttt tatattttc ctcttcggtc   8160
cagaatttct tatttagttt cttgtatttt gcctactccc tcccttctcc atgattcagc   8220
ctagtctttc cgtcctctgt ggacttgggt gtgccttcct ctgggccacc tcgtctttg   8280
ctgctgttag ccctcccgcc tgcgcacctg ccacttcacc ctcgcctgtg gtccacttac   8340
gttccactca gccccggtcag tcctgctttg ttcttctcca ccgccttggt ctcccgtgtg   8400
tcttatctag ctctggttcc ttctcgtctc cacatttatt ttgtttctt cctgtgcttg   8460
ttagtccttg tgcacttggt ccttgagctc tttttctatt aataggtatt actagatgga   8520
tttgttgtct gcctttacat agaacacaca tccttactgt gcatttcctg ggtagccagg   8580
atgaatcaat tattattcta ttccccttcga acattgagct tcctctgttt tctgtttcta   8640
agaattagat tagtattcta gaagactaat actactttaa agacagtcaa aacagtcata   8700
cgctgccatt tcagcccttt atttaagagt ttgtgacatt tatcactccc ttgaaagatt   8760
aaagaacacc caaagcaagt ttggggtgga ggtggggaag gcaggaagag aaaggtaagt   8820
gctataaaag gactcattgt taatttctag aaattggact gagatctgaa agcataagcc   8880
ttaacatttt ttagataaac ggtccctgaa aagaataaaa agtatcagta cttccgttaa   8940
ctagctttag tattgggtca tttgtagttt acacagtccc ttaagttta agaccttcag   9000
tagttaacaa agcagacaga gactggccag gcacagtggc tcacacctgt aataccagca   9060
ctttgggagg ctgagttggg tggatcacaa ggtcaggaga ttgaaaccat cctggccaac   9120
atggtgaaac cccgtctcta ctaaaaatac aaaaaaaaaa aaaaattagc caggcgtggt   9180
ggcaggcacc tgtagtccca gctactcggg aggctggggc aggagaattt cttgaacccg   9240
ggaggccgag gttgcagtga ctgagatcg cgccactgca ctccagcctg ggtgacagcg   9300
agactctgtc tcaaaaagaa aaaaaaaaa aaaagcagag acttaatctt gtaaatactc   9360
atttttatttt tgagaggctt aatgtctcct taaatattaa cctgtgtcat tttgtaatta   9420
tactgtaata gtgtcagaat gccattaaca accaaccctt ttcgtttctt gtgtgggaaa   9480
```

2614

```
gctcataaat tgtgtggtct tacccctctg gaccctgtag ttgtagcatt gtgaaaatgg    9540
agcttttggc aaaactttgt attatgctgt tgactcacat tgtctcatat ttttcctta    9600
ttcttctata ttctatgaat atggtgctgt cctgtcattt aattattata atatatgtga    9660
actgctggag gtagactgat gtgagtgcag ttttcaact taaaaaccct tatatatcac    9720
attcatggtg tttaagatat aagaacagcc ctacaaagag gggttgattg tattgaagat    9780
tctttctgct gagcctgcct taattgtgag ggtggttgtt tgggtatctt agagctaaaa    9840
gaatggctaa gagtccatta atggtcctgt aatattcacc atccctgagc agttagtaaa    9900
gaatggccgc aaagccacaa ttaggctact aacaaggaac ttatgtagat gtgctaggtc    9960
cagcctgtgt tctggaacta tagagatgaa taaggtatgg tcctttctct ctggaggctc   10020
acagttgaat agggaatatt aatacgtgaa tgatagcagt acagtgtggc agatgctaaa   10080
atatatgtgt gtagcagcta ttacaggaga actgattaat agggagagtc tggctgggct   10140
cagtgactca cccctgtaat cccagcactt tgggaggccg aggcgggcag atcacttgag   10200
gtcaggagtt cgagaccagc ctggccaaca tggtaaaacc tcatctctac taaaaaatac   10260
aaagaaaatt agcaaggcgt ggtggcgggc atctgtaatc ccagctactg gggaggctga   10320
agcaggagaa tcccttgaac ccgggaggtg gaggttgcag tgagctgaga tcatgccact   10380
gcactccagc ctgggtgaca gagtaagact gtctcaaaaa caaaacccaa aatactaacc   10440
atatttatag ttagtcacct cacccttttt ttagttaaaa gaagtttatt tagcctgatc   10500
agtttaccag atgtcttttt tagtgacttt tgtgtcttcc ataaatccat tctcaaaatt   10560
tgcaacagtt gagcatattt gaccaaaatg tgccacaggt ttctgaagcc tgttcaagaa   10620
gaagcatgtc aacattattg gagtaggtct tcgcaatgac tacttttggg aagatttgag   10680
taaaatttat ggatacagaa gttttggagt atgttagaat attactaagt cttgttagta   10740
gttgtaatcc ccacactggg ctatatagat gtaataccaa cctgagtata gctcctgaag   10800
aatatctggt ttggagactt ggacaaagtg aactttttg cttttttaaa agttgctgtt   10860
taaattaact tcctgcattt ctaatgtaga aaaaatatgg cacagtgatt tgaattttgt   10920
ttatggttta ttatcttcct aaattatcag ctctttaaaa tatgggtctc tggcctgtat   10980
accatctgat aaattaggtt gggtaaattt ttcacctgaa aaaattcatt cttttgaccc   11040
aggttgtttg gcttggaaaa aaaaaatcac atactcattg catgattaaa cttgtccatc   11100
agattgtgat tttgtgcgtt atgaggattg tagctggggt aattttaaaa tgttggtatt   11160
tggatagaac tgccagccca ggattttgat aaagatcaaa atatatactg tatctaaagt   11220
ttctttttta aaagttattt cacttataat caaaaggttt aaataagttt agtgtatatt   11280
ttatgattag tattattttg tatcgattca gagagaggaa aactgcattc ccatagacag   11340
ggagacttgg tgcattaata tccaaagctt agtttaagct ggtgatgatt agaaaagtgg   11400
ctttcatttg tgttctctgg aagattctca gtagtcctgt gggcatgtga acaagagcat   11460
gtgtaatctt cataatgtat gtcttgttag cagaaatgtc tgaggcattg ctgagatgta   11520
ggatgagctg aggtactggt tttgtctttc atggttccct attatgtttt ttgagaaact   11580
gagctttttcc tgacagtgtt tagttttttct tggctatttta ctatgctatt aatagtaaca   11640
gtttccatta tggagcctca gtaggttctt gacatacatt aacccattgc tattatgtaa   11700
ttttctaata aaatgatgtg ataaaacata ttttctgtaa tatactcata gaatatgtga   11760
ttataagtaa ataaatagat gttggggtag tcctccaga                          11799
```

<210> 5691
<211> 3783
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (273)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (522)
<223> n equals a,t,g, or c

<400> 5691
```
tgagttggat gaagagaaga aaatccggct tcggttgcag gtgcgtccct ttgggttctg     60
ctgcccgtga gtcctaggct cagtggggca ggacattgtg agggctttta tttcaaaaat    120
aaatgattgt cacctctctg cagatctgga tacatttcct gtgaccatct tcttagaatc    180
gtatgggctt actacatatc gtttccccag gaagtcttgg ggaagggaaa cattaggaaa    240
```

2615

```
tgtgccccaa attgggtttc tcatttggga atnatctttc tttttttttt ttttgttgag      300
acagagtcac tctgcaccca ggctggagtg cagtggcaaa ttctcgggct cactgccacc      360
tctgcctcct gggttcaagt gattctcctg cctcagcctc ccaagtagct gggactacag      420
gtgcctgcca cacacctggc taattttttg ttttttaaaa aaacgggttt cactggttag      480
ccagaaggct ctcatctcct gaccctaagg aaccttcctg cntcagcctc ccaaagtgct      540
gggattacag gtgtgagcca cggcacccag ccgtggaatt tatcttaaac atctctgcga      600
aaagcccctc tcccacctcc atttccaaga ggcctcatta tatgtggtca ctatggctcc      660
aggggccaca gctgtccatg ttcggggggca tttgctcttg atttctcagt gatggccatt      720
tctgtcctgc cagggcgtta gagctctgtc ccctgtagcc tctgattcaa cactgctgtt      780
accaaatggc agagaatgcg tgggagttct gattgaccga aggtagactt tcagctttca      840
tccagttggc gcccttgtgg tgatggggac ccatgctgct taacaaagga taggtagctg      900
cttgccatca tttttggggggt gctgacagac accccttga gccaaccaca gctgccttcc      960
aacactgcca gatggccccg cctgttagga ccgcctgctc taccctctgg ctaagaaact     1020
ggaattattg ctgcttttga caaactttgc agcctggcag cctgagaatc aaaatgtgca     1080
ccatttccta gtgcctcgtg tctgtgtgcc tgttctgtgt tgatgtcact tctggcattg     1140
ctgttgattg tctattcaga tgtcatgtca cctttaaaat tgtcagattg attgtttttct     1200
ttcagtcgac cgggttgata atctttcagc ttctataaaa ccagccgatt cattatgact     1260
ttgttccatt cttattttttc tctttctaga tggaagtgaa cgacataaag aaagctctac     1320
aatcaaaatg aatacttgat caatgaaatg tcacattatt catcctgagt ccgagactca     1380
aattttctgc cccagccaaa ataatcttgt gccaaagat taaaggtttg cctcaaaatg     1440
tccctgtttg aaagattagc acaaagtct tgatagcaca acacaaattc catccaagag     1500
gagaatcttc cccagggttt agtcctgggg ctggcactcg ttgtgactta cacagagcaa     1560
aattgtgcta aaggcttttc tactctgaga tctcaatgcg aaatgaaaac tcaggcagtt     1620
tagtccatag tggtactatt ttgatgatat tttccattaa taaaatgtaa tttcagatta     1680
ttcgtttaca agctttataa ttttatgatt ttttaatcgt gttttgtcac agacttccct     1740
agtgtttgta ctacgtag tcagaagcga gtgtccttt cttttgcttc aggctaagag     1800
ctgcctcgct ctttgtcccc ccattaggat tctattacat atgcaattgt aggttcaacc     1860
tgtccctttc cctgccagca aaccccacca ccctaagaga aatttttagct tatatatgac     1920
ggtatattta caaaaagaga aagagaaaat ctggtatttg caatgatctg tgccttcttt     1980
ttaccaccct cttgattgga gctttttgtga tgcagctacc atgattcaaa aaaattaaaa     2040
attaaaaaaa aaaaatctgc cacttatcca agtccactag aggccactgt cttcaaagct     2100
tctctcaccc tagccaaagg tcctaagagg agacagctgt gaagttgggc gtgctctgtg     2160
gtaccagctg tgactttttct atttctccta gttttaggtt gttcatgaaa ctagaaatgt     2220
catcctgctt gatttttcat cagccaagtt aaaccctgc tttctgtcct ttgcaccttt     2280
tgcgtgaaca gaatatgcat tattaaagca aaaataaata aaagtaaaat gcaaatgaaa     2340
acaagggagg gaaagttgta ttatttcctg cactgggtta cccgtgtgtg ttatcgttta     2400
aactgtattc acataatgtc atttgccttg ctcacttgta accccttcct caggtccaag     2460
agaatgggag gagggtcatg ttgaagtgta gccactggaa ctttcttgca tttatggagt     2520
tgcttttct ttcccaagga aactgatgtt tgcctgtccg ctttatcttt gtagtacatg     2580
aacagttcag ccttagacta tgtaactgtt ttctcatcct tagctgaaaa tgaggggcct     2640
actgtattgc gagactgttc aggggtaggg gtggaggggg tggtcccta atggcccctg     2700
aagatgttgg atgtgtttct caaaagctgc tttgtctctt tcctgagttt aatagtgaaa     2760
ctactaaaca ttaatagatt tgcacagcca caaagaatga gagttgataa taccgaagaa     2820
gtgatgcaaa aacaaaaaat cacattactg atcattgata gtattacaaa taaatgtctc     2880
ttcctttctc ttcctcccctt cctcccctg ccttcctctt aacctatgtg ctcatccttg     2940
ctacttgagg ctgttatttc cctccgagta tttaaggagc ccaaacacct tggtcttcct     3000
gggtgggggc ataattaagg gaagggagtg tataaggaag gaaacctcat accctccatt     3060
cccatccctg gatatattgc cttttcagca gcctcgggtt cagtgtgctt ggggtcagga     3120
gtgccaggtt cccaagagca gcgtaaaaca tccctgtacc ccttgacagt tataagcatt     3180
tctgcgttaa acttgaagat tccagagatt ccccacgacc taatgatcta agaatgcaga     3240
ttggattctt tgatgttcaa atttctcatt tacttatgaa aatccctaat tatatagttt     3300
tatataatgt gtatacagag taggattgtt gatgaaattg agcggttgga acaccctcat     3360
ggaacactgg caacatggaa tgtagagagc tgatgtcttc cccctcatag aggccattgg     3420
cttcctttgt ataaggagag ggagaagtga ttctggaagg agaagttggt atgtctagct     3480
tcattgcggc ccctcgggct acccagcaag aggattctgc atcaaggaac tggacgagcc     3540
gctacccaaa ctgccaccat ctttactctt tacaaaatgg acccatcgag aatgttgaaa     3600
agcttggaag tatcactttt gaaaaaaaaa aaaattattt tgcattcagc atggactcga     3660
ccaggcatct atggagatta ttttttttgct tcattttata aagttgtatt tagaaaagtc     3720
ttaagtattg tgctttgtaa agaagatgat taaaatgaaa ttttgtgaga atagttttgt     3780
tca                                                                    3783
```

<400> 5692

```
tgagttggat gaagagaaga aaatccggct tcggttgcag gtgcgtccct ttgggttctg      60
ctgcccgtga gtcctaggct cagtgggggca ggacattgtg agggcttta tttcaaaaat     120
aaatgattgt cacctctctg cagatctgga tacatttcct gtgaccatct tcttagaatc     180
gtatgggctt actacatatc gtttccccag gaagtcttgg ggaagggaaa cattaggaaa     240
tgtgccccaa attgggtttc tcatttggaa tttatctttt tttttttttt tttcttttg     300
agacggagtc tcgctctgtg acccaggctg gagtgcactg cgccatctt ggctcactgc     360
aacctccgcc tcccgggttc aagcgattct cctgcctcag actcccgatt agctgggact     420
acaggcatgt gcaccacacc tggctaattt tttgtatttt tagtagagac ggggtttcac     480
tgtgttagcc aggatggtct cgatctcctg acctcaggtg atcctcctgc ctcagcctcc     540
caaagtgctg ggattacagg tgtgagccac ggcacccagc ctggaattta tcttaaacat     600
ctctgcgaaa agccctctc ccacctccat ttccaagagg cctcattata tgtggtcact     660
atggctccag gggccacagc tgtccatgtt cgggggcatt tgctcttgat ttctcagtga     720
tggccatttc tgtcctgcca gggcgttaga gctctgtccc ctgtagcctc tgattcaaca     780
ctgctgttac caaatggcag agaatgcgtg ggagttctga ttgaccgaag gtagactttc     840
agctttcatc cagttggcgc ccttgtggtg atggggaccc atgctgctta acaaaggata     900
ggtagctgct tgccatcatt ttgggggtgc tgacagacac ccccttgagc caaccacagc     960
tgccttccaa cactgccaga tggccccgcc tgttaggacc gcctgctcta ccctctggct    1020
aagaaactgg aattattgct gcttttgaca aactttgcag cctggcagcc tgagaatcaa    1080
aatgtgcacc atttcctagt gcctcgtgtc tgtgtgcctg ttctgtgttg atgtcacttc    1140
tggcattgct gttgattgtc tattcagatg tcatgtcacc tttaaaattg tcagattgat    1200
tgtttcttt cagtcgaccg ggttgataat ctttcagctt ctataaaacc agccgattca    1260
ttatgacttt gttccattct tatttttctc tttctagatg gaagtgaacg acataaagaa    1320
agctctacaa tcaaaatgaa tacttgatca atgaaatgtc acattattca tcctgagtcc    1380
gagactcaaa ttttctgccc cagccaaaat aatcttgtgc caaaagatta aaggtttgcc    1440
tcaaaatgtc cctgtttgaa agattagcac aaaagtcttg atagcacaac acaaattcca    1500
tccaagagga gaatcttccc cagggtttag tcctggggct ggcactcgtt gtgacttaca    1560
cagagcaaaa ttgtgctaaa ggctttctta ctctgagatc tcaatgcgaa atgaaaactc    1620
aggcagttta gtccatagtg gtactatttt gatgatattt tccattaata aaatgtaatt    1680
tcagattatt cgtttacaag ctttataatt ttatgatttt ttaatcgtgt tttgtcacag    1740
acttccctag tgtttgtact acacgtagtc agaagcgagt gtccttttct tttgcttcag    1800
gctaagagct gcctcgctct ttgtcccccc attaggattc tattacatat gcaattgtag    1860
gttcaacctg tccctttccc tgccagcaaa ccccaccacc ctaagagaaa ttttagctta    1920
tatatgacgg tatatttaca aaaagagaaa gagaaaatct ggtatttgca atgatctgtg    1980
ccttctttt accaccctct tgattggagc ttttgtgatg cagctaccat gattcaaaaa    2040
aattaaaaat taaaaaaaaa aaatctgcca cttatccaag tccactagag gccactgtct    2100
tcaaagcttc tctcacccta gccaaaggtc ctaagaggag acagctgtga agttgggcgt    2160
gctctgtggt accagctgtg acttttctat ttctcctagt tttaggttgt tcatgaaact    2220
agaaatgtca tcctgcttga ttttttcatca gccaagttaa acccctgctt tctgtccttt    2280
gcacctttg cgtgaacaga atatgcatta ttaaagcaaa aataaataaa agtaaaatgc    2340
aaatgaaaac aagggaggga aagttgtatt atttcctgca ctgggttacc cgtgtgtgtt    2400
atcgtttaaa ctgtattcac ataatgtcat ttgccttgct cacttgtaac cccttcctca    2460
ggtccaagag aatgggagga gggtcatgtt gaagtgtagc cactggaact ttcttgcatt    2520
tatggagttg cttttttcttt cccaaggaaa ctgatgtttg cctgtccgct ttatctttgt    2580
agtacatgaa cagttcagcc ttagactatg taactgtttt ctcatcctta gctgaaaatg    2640
aggggcctac tgtattgcga gactgttcag gggtagggggt ggaggggggtg tcccttaat    2700
ggccctgaa gatgttggat gtgtttctca aaagctgctt tgtctctttc ctgagtttaa    2760
tagtgaaact actaaacatt aatagatttg cacagccaca aagaatgaga gttgataata    2820
ccgaagaagt gatgcaaaaa caaaaaatca cattactgat cattgatagt attacaaata    2880
aatgtctctt cctttctctt cctcccttcc tcccctgcc ttcctcttaa cctatgtgct    2940
catccttgct acttgaggct gttatttccc tccgagtatt taggagccc aaacaccttg    3000
gtcttcctgg gtgggggcat aattaaggga agggagtgta taggaagga aacctcatac    3060
cctccattcc catccctgga tatattgcct tttcagcagc ctcgggttca gtgtgcttgg    3120
ggtcaggagt gccaggttcc caagagcagc gtaaaacatc cctgtacccc ttgacagtta    3180
taagcatttc tgcgttaaac ttgaagattc cagagattcc ccacgaccta atgatctaag    3240
```

2617

```
aatgcagatt ggattctttg atgttcaaat ttctcattta cttatgaaaa tccctaatta    3300
tatagtttta tataatgtgt atacagagta ggattgttga tgaaattgag cggttggaac    3360
accctcatgg aacactggca acatggaatg tagagagctg atgtcttccc cctcatagag    3420
gccattggct tcctttgtat aaggagaggg agaagtgatt ctggaaggag aagttggtat    3480
gtctagcttc attgcggccc ctcgggctac ccagcaagag gattctgcat caaggaactg    3540
gacgagccgc tacccaaact gccaccatct ttactcttta caaaatggac ccatcgagaa    3600
tgttgaaaag cttggaagta tcacttttga aaaaaaaaaa aattattttg cattcagcat    3660
ggactcgacc aggcatctat ggagattatt tttttgcttc attttataaa gttgtattta    3720
gaaaagtctt aagtattgtg ctttgtaaag aagatgatta aaatgaaatt ttgtgagaat    3780
agttttgttc a                                                         3791


<210> 5693
<211> 149
<212> DNA
<213> Homo sapiens


<400> 5693
ccaccatgcc cagctaattt ttgtattttt agtagagatg gggtttcacc atgttggcca     60
ggctggtctc gaactcctga cctcaggtaa tccgcccgcc tcgacctccc aaagtgctgg    120
gattacaggc gtgagccacc gcacccggc                                     149


<210> 5694
<211> 404
<212> DNA
<213> Homo sapiens


<400> 5694
taataaaaat aaataaataa ataaataaaa taaaggaaat atatatggag tggtaaaaac     60
atctgcaata aaaattacaa gaagagccag gcttagtggt tcatgtctgt aatcctagca    120
ctttgggagg ccaaggcagg aggattgcta gagcccagga gttcaagacc agcctgggca    180
acatagtgag acccccatct ctacaaaaat aattttaaaa attggcctgg catggtggtg    240
tgcgcttgta gtcctagcta ctcaggaggc tgaggcagga ggatcgcttg agtttgggag    300
gttgaggctg cagtgaccca tgatcgtgcc actgcacttc agcctgaaca atagagcaag    360
cccttgtctc aaaaagaaaa ttgtaataag tacatttaaa gccc                     404


<210> 5695
<211> 384
<212> DNA
<213> Homo sapiens


<400> 5695
ataaataaaa taaaggaaat atatatggag tggtaaaaac atctgcaata aaaattacaa     60
gaagagccag gcttagtggt tcatgtctgt aatcctagca ctttgggagg ccaaggcagg    120
aggattgcta gagcccagga gttcaagacc agcctgggca acatagtgag acccccatct    180
ctacaaaaat aattttaaaa attggcctgg catggtggtg tgcgcttgta gtcctagcta    240
ctcaggaggc tgaggcagga ggatcgcttg agtttgggag gttgaggctg cagtgaccca    300
tgatcgtgcc actgcacttc agcctgaaca atagagcaag cccttgtctc aaaaagaaaa    360
ttgtaataag tacatttaaa gccc                                           384


<210> 5696
<211> 23461
<212> DNA
<213> Homo sapiens


<400> 5696
ttttctctcc caggaagtgc tctctggcgt ggtggtcata tcgagtaagg attcagtcca     60
acaccaggga gtgtctttga ccatggaagg aactgtaaac ctccagctca gtgccaaaag    120
```

2618

```
tgtgggtgtg tttgaagctt tttataattc tgttaaggta agaaagaatg cttagattgc    180
aagttttttag ttcaatattg aaatgttggg ctgggcgcag tggctcaggg ccaggcgcag    240
tggctcaggc ctgtaatctc agtaatttgg gaggccaagg cgggaggatc gcttgagccc    300
aggagtttga gagtagcctg ggcaacatag caagacccca tctctataaa taaactttaa    360
aaattagccg ggtgtggtgg tgcgtgcctg tagtcccagc tactcaggag gctgaggcag    420
gaggatccct tgagcccagg aattcaaggc tgcagtgagc tatgatcaca gcactctact    480
ccagcctcag caacagagca agataccatg tctcttaaaa aaagacatgt ttatggtggg    540
tttcacttgc tgtgtgcctt tattgttatc tgttgttatt ttgcaaggga tggtggtagt    600
tacacttctg atatttacta atcaacctgc gaaaatggag atactttgtt tctaagtata    660
tcctgttatt gaaagtctgc ttatatttat tcctatttga taaataggat taggagaact    720
ataaatgtat taatttcagc cattaaaaag atcacacctg ggtgcagtgg ctcacgcctg    780
taatcccagc actttgggag gctgaggcag acagatcacc tgaggtcagg agttcgagac    840
cagcctggct aacatggtaa aaccccgttt ctactaaaaa cacaaaaaat tagcggggtg    900
tgatggcgtg tgccccagct acttgggagg ctgaggcagg agaatcgctt gaacccagga    960
ggcagaggtt gcagtgagct gagatggcgc cattgcactc tagttgaggc aataagagca   1020
aaactccatc tccaaaaaaa aaaaaaaag atcacagctc ttctgagaag ttgtgcctgt   1080
ggcttatgtt acatgccttc caaaatcaaa actgtcattt tattagctgt gtctatgcta   1140
ctgttgattt gacactaagg taagatgaaa atagagcaag taactgttgt ttttgtcatt   1200
tagggtagag ttttgtgttc cagaatgtaa actctttctc tattcttgta gttgcctttt   1260
cctgaaggac atattaacgc tttaagtttt gcagggaaaa gagtgaagac agagaaaggt   1320
gcattcacag tgttcagatt taggggcttc ctatgttttc tacaacttta ttttaatcca   1380
ttagtactta agagattcac ttcctaagtc atgggtcttc tccgagccac tgatgttaaa   1440
ctataaatgc ttaaaaagca tgaatacgtg ccttgaaggc aggttccaaa tgttagtacc   1500
ctcctgctcc tccttggagg cccagctgag gaggtctgtg caggccacag ggctggagga   1560
aaggcctgct ctccctgagc ggctgcagca ggaaggctcc gaggaagctg gtgggctgtc   1620
aggagcagag gcagcgctgc ccagaagagc acggggctcg gtgaggggga gccgtgggtt   1680
cacacgtcaa ccctgttagc caggcagcct cactgtgctg ggtctgcttc ttgatcctga   1740
agatcggggt cgttaaaaca gttaaatgag atacctgggg aggagagagg gatgtatcag   1800
ttcagttccc atgtgtctca agcacctatg tgtctcatgt tgtaaatgaa tcattattgt   1860
gccagagtct taaaaagcag agccaagtca ctgttcatct ccagacccag cgcagagctg   1920
ccgaagacag caggatggtg gcctccaggg ggtcggggtg ctgtgtcctt cagaacgtta   1980
ttagtaattg gaaaggacat ttccaagtgt gtgctgatgg actgaactga ttttgttta   2040
cagcctatcc agattatcaa cagcaccata gaaatggtga agccggggaa atttcccagc   2100
ggcaaaacag aaatcccttt tgaatttcct ctgcacttga agggtaacaa agttctgtat   2160
gagacgtatc atggcgtgtt tgtcaacatt caggtgagag cttcctagtc ctacgcgact   2220
gacttcacaa gtttttcttct gacaaacggt gtggtctttc tctcaacgtt agtagacggg   2280
cccaagaatt taatactgtg tttattgctg agacctcgca tgtatattcg acgttaattt   2340
ctcatttccc tgataaatgc atttgatgta tggccgttat ttctgatggg agcctcaagg   2400
cactcgtgct gtaacttctt ttccctctgt ttcttctggg ctcttttcag gccacctcac   2460
attgtaaggg atgctttttat tgtctggtaa cagatatgcc ctaacttctt tctggcacta   2520
gcattaactt gtctgtttta tacttacaag tatctctttg tttaacaccc aaaggctact   2580
actttgacat aggctggtgt tctttactga acaaaccttg tcaatgaggg gaagtggatt   2640
atgacttcct gtctacctct gctggttaag ggacgtcttt gacagtctgc tgttgttgtc   2700
tcaggagcag tggagtccac gcggggtgag atagcctttc ctttatgcag cagaaagaaa   2760
gatactttttg tgatagcagc ctcgcagcac ttcccttgct ggatgagaca caactcttca   2820
gtcttatatg caagagggat gaaagtcagg aattttttttg atttattaag ttttggtcaa   2880
taatttggcc ttagtagata cattatcctg ctgaaaataa tagaaccttt aaaataaaag   2940
ccccccaaac ccctgtgagt gtttaaagat tcatctgtat gggagtttta tgaattgcct   3000
aagagatctg tccagaggaa acacatgtag tatgatgtac atcttctgtg aagaaaagaa   3060
gtgtttctag tcctttattg ttagcaccaa aggctttgga cagccccaag gaagcagcag   3120
tgatgactga gtagtacctg gattcagagg aagctgcgta cgtagccatg cagataccaa   3180
ttgctggtat gtgggtggga gtcttctgat cagcttttcta ggttgggact gtttccaccc   3240
tgaaagaaac tgaatgaaaa atgccttttt ggcaatactg aagatatctt gaacattgat   3300
tttggaaatt attttttatta tctacccaga atcagtatcg acttgcttta tccacacggc   3360
agttctttaa tatggttgat ttaaaaatac aagaatatgt tcattagaaa ctggaataag   3420
atcacgtttt cagtgatcat atttgttaac tcctgcgttc atcaagactt accaaaagaa   3480
gatgaatttg tttaaagtca aattggaaac cccatccttt tccacatgtt gccaagacag   3540
atgttcagat atacatagaa aacgtgtgtg ctggccaggc acagcaggagt acgcttgtca   3600
tccctgcact ttgggaggcc atggcaggag gattgcttga acccaggagt tcaagaccag   3660
cctgggcaac aacgcaagat ctcatctcta caaaagaaaa caaaacaaaa agcttgtgtg   3720
cttctgttgc tgcagagctg tgtgtacatt ggaggctact taaaatatag taggagagtt   3780
```

                                  2619

```
aacaggtggt gggttcctta gtaaagggaa taattgcccc taccctcgtc ttttcatcat    3840
cagattttac catttgaggg ttaacctcag agtactacaa tttggaattc agtacctccc    3900
caactatctc accgatttct aacaatgaag agatttctta gcttaacctc tgatttccat    3960
gactttatca cacttattgt cattcagcac ttaatagtat tttgccatct ttgttcacct    4020
aaaaatttag attttttct aaatcatttt aaagttagtt tcagagtctt gatacttcat     4080
ctcaaaatac ctcattgcgc atctccaaaa actaaggacg tttgtctcta taattacagt    4140
taacatttgc acacctatca gaatttgtaa aaattctcaa gtattgatta attcttgatt    4200
catatcaaaa tttgtcgtct tttgagaaaa taaatttaag agaaactaag attatgtttt    4260
tttaaatctg tcatcatcca tccatccatt cattcattca tgccattatt tggcaggtct    4320
ttttcttaca gttttatagt agagcaagtg ccgcccagag acggcagtga cttcctgtgg    4380
tcacacaggc cagcctcagc ctgcgggtcc agaccagcac tcctcggccc gcactgttta    4440
ccgcacttac tctaaaggtt aacataggca catttctttg gatagaaact tttgttgcta    4500
aaccctaata tcatctttct taaattatgt gccaagaaat ttttcattca taaattgaat    4560
tgtgttgtaa caatctaaaa cggtaaaaat cataaatcag aataaaggat ttaaaagata    4620
gacgtgctgg gtgcagcggc atgcacctgt aaacccagcc acttgggagg ctgaggtagg    4680
agaatcactt gagcccagaa gttcaagtcc agcctgggca acatagcaat acctcatctc    4740
ttaagaaaaa aatttttaa ttaaaaaaaa aaatatatat atatatat atatatat         4800
acacacacat atacacacat atatatgtat atgtatcaaa tgccagtatt atattcctga    4860
cttccagagg cttggctttc ttgtcatttt ttagatgaag agcttgacat tcttctcagt    4920
catgttgcgt tcatgtttgt ctttgttact agatacttca tatgatcatc agagtcttcc    4980
gtagttgccc tttgtgcatc tacttcttct ttttacaata atttaaattg taggcaagtt    5040
ttattaggtt tgttctactc ttgctttact cttgtagctg tgctagcaag cgtttatcct    5100
atcacataaa acatgtctgc tgaaattgta tattcagcac tcatttctag agatcctagt    5160
catccctttt caaagttaaa aattcctttt ataggaatct actttaaaac tatggacagg    5220
gctgggcacc gtggctcacg cctgtaatcc cagcagtttg ggaggcggag gtgggcagat    5280
cacctaaggt caggagttcg agaccagcct ggccaacatg gtgaaacccc gtatctacta    5340
aaaatacaaa aattaggcca ggcacggtgg ctcacacctg taatcccagc actttggaag    5400
gccaaggcat gtggatcacc tgaggtcaag accagcctga ctaacatggt gaaaccccat    5460
ctctactaaa atacaaaaat tagccgggca tggtggtgga tgcctgtaat ctcagctact    5520
cgggaggctg aggcaggaga attgcttgaa cccaggaggc agagtttgca gtgagccgag    5580
atcacgccat cgcactccag cctgagcaac aagagtgaaa ctccatctca aaaaaaaaaa    5640
aattagccag ccatggtggc gcggcccctg taattccaga tactcaggag gctgaggcaa    5700
gagaatcact tgaaaccagg aggtggaggt tgcagtgaac cgagatcacg ccaccgcact    5760
tcagcctggg tgacagagtg agactccgta ttaaaaaaca aaaaagaat atatatattg    5820
tatatatatt ctacataaag atccttgcag acaaggatga ttcttttaaa caatgtttta    5880
ctctcccagt agtaccttaa atatatatag taacttctta tttcatgcgg acaggttgtt    5940
catacgaata ttagcttctt ggaagattca gttatgcata gagtccgagt tatgaaaatt    6000
atttttgaca taattctgaa gttttttcctg gacgattaaa acaacaacta actttattaa    6060
acgtggatta tgtgattttt ttttaaagac tggcattaca acagtggtcc tgctgtagaa    6120
ttacattttt aaatagtctc tcagctcacg gacagggatt tgaagcaaca gtctccgttc    6180
aaagcctgct ttaagctcaa taccagctct gcagtggggc tccccttggg ggaatagagc    6240
tcaccttgca gtaggcacca tggtagcaac cagctcagaa aactaaccta gggacagcag    6300
agaaatggaa tgcggctctg ccacattaaa aaagcaagtg tgcaagtgcg atgctacatt    6360
gttttccaac ccactttttc tttgaggtgc aggctacatc tgtgtgttgg cagatggaga    6420
gagacctcag atgtctcgag aaataagatt agccatgagt tgacccttgt ggaagttggt    6480
tgatggatgt gtgggttact gcatattcag taaactagaa gttccctgag gaccaggtgt    6540
gaccttgagc ttggctgtgg tgcccagggc agtgctatgc actcagagca ggtgcccagc    6600
gaggaagggt tgtgacatgc tgggtgctgt cccagggttg cagtcctcac tgcatggatt    6660
ttctaatccc gcttacaaag tagctgctgt tttccagcat tgctttgtgc cagccctgtg    6720
ctgagtgctt gtcacacatg atctcattgg agtctcgctg caggtgggtc ttaagagccc    6780
cattctacag aagggaagca gaagctcaga caagttgtgt tatctgtctg ggctcgcaca    6840
gtaaggcaga caacaacggg atctggcctg gcgtctgctc ctgagcgcac tgcccttcct    6900
gtctcgccag cctgctccct gctacaggtg ggaccgtgca cctgtttgcc agtgggtcca    6960
actgcaggcc agctgtgcaa acagattgaa gaataacctt aaagtggttc attttaaaa    7020
cagaaatgcc tttattttga acattaacta tcctattatg tattatatta tgtatgttaa    7080
ttttctataa tgcactgatt gtacaacatt tccctaaaat atgttgactg acttgtctct    7140
ttgaatataa ttccaagatg aaagcaaatc ccactaaaat gaactttttt cctccaactc    7200
tccccttag tatacactgc gctgtgacat gaagcggtct ctgttggcca aggacttgac     7260
aaagacctgt gaatttatcg ttcactccgc tgtaagcttc actcggggac tctggtgctt    7320
aatgatagga atctcccatg gggtctgaga gtttaccctat tttacaagct caccatttag    7380
cctcttactg tttcacgggt gctggcagaa gacacaagac ttctgggtca gagacagtcg    7440
```

2620

```
gtggcatgcg catcacgtgt gcatcattgt cctgggccca gagtcccca gctgaggccg    7500
cgggccagag ggactccacg tcggcacatc aggcaggacc tttcctcccc ctggctctct    7560
ggatggtaga ctggcccttt gcatcccagc ccctggataa aaaatgccag gcaggctctc    7620
atgaagctcg gctgtatctg tagattctga aattatgtaa catggaggtg atcactgtta    7680
ctgctgtttt ggtaacgttt aaagtatgat tcttcaggtg acagctctat agctcagagg    7740
ccaatagcaa cctgacctcc tgggttcaat gctcagcccc ccagctccac cactgagctg    7800
agcaggccac tgagctctct gccccgcttg cctcgtctgt gaagtgggac catctgggag    7860
gtgtgaagag cccttggag ggtcactgtg ctgaggtttc aaataagtac ttgccaataa    7920
cactgttctg tttcttagat ctgatttaa aattctgaat ctgaaaggca cgttggagat    7980
taagacatct ctccctcat tttacagatg aggaaactga gtttcagcaa gatggggaaa    8040
tttgacagaa ctgtgttcag gacccaggct tgcgcctctt agttccccgt ccttcctgca    8100
tcgccaggct gccgttggtt tatttttgaa agggaaaagc tatttgacct gcagaactct    8160
tggccttcac ctactgattt cggtttcacc tctcgtttta gcctcagaag gggaagttta    8220
ctcccagtcc cgtggacttc acgattacac ctgaaacctt acagaacgtc aaagaggtaa    8280
gacgtcctgc acaggcgaat gccgtgggta tcttcccagc agccagaccc cacggactag    8340
ctattgcccg ggtggtcttc atttggaaat cacgtcatca gccggcagag atttctgatt    8400
gtacccaaat tactcagtat tttccatttg atttcctttt taagctcagt aaagcagctt    8460
agaagaggac tgcttttgaa aagttcctca gggagggtcc atgtctatta atctcaccat    8520
tttccctcag ttttactgca tcatgggccc ccaagacccc ctgctgccca tgacacggcc    8580
acgtcccttc atttctcatg gttagccggg gcctgcgccc ggcccctgg cctgttgtca    8640
tcctccatgg atgtttagtt tgcagtttct tccccagcat tcccatcaga cagaggccgg    8700
gcagcaacgt gctttttcaaa gattccgcag tgccctccgt ggtggacgcc tcacggccag    8760
ggcaggtaca gtgaggacac agacgcctgg gcagtgccag cccagctccc ccgcctcctg    8820
catcaggaca gggctgtctg gctgtcagtg gcagccgctg gtggagcctc agctggtccc    8880
tcgagctgca cggtgaactt gggcccgtcc aaaactctgc ctggcccccgg cctccctgat    8940
cttgccctct catccactgc catgcatttc tcctaaacag tggagtcctg tagttcttcc    9000
tggatgtaac ttttcatcct tcctctaatt ctttattctg ctgtctggac cacactgact    9060
aggatcaagt gaaggacaag ctgggaggcc tgggccctgg gatgtcattg gcctcatccc    9120
tcagaggctg gacatgtgtc gtggggagcc tttcagacag gtgagggagg aaaggccact    9180
cctctgtctg ttctgcacgt ctcccttctc cgggctctga gggcacgcga ccccagtggg    9240
ccactcagac tcccgtctcc cacctctgta gcctgtcttc ggaagcgctg acctcagcag    9300
taatgtgatt catttctaga caccgtttct tcttcgggat agctgctgct tccatgacgg    9360
acgcagtggc ctttcatctc cttttcctgt attgattctg tttctcaggg gttggttctg    9420
tttgtcgagt gtgtgtgtct ttttcttgct tttgtttcc ttaaatgtgt attgatcctc    9480
ggttgtcagt ttacatttac aaatgaggat ctaatgtgtg tggtggtgtt gtagaggctg    9540
tatccttagc ccaggtgaga acctgttctc ctggtcctca gcacctgctc atcagaggcg    9600
ctctgccctg ggtgtggcac gtggccgggg tgtttgtagg cagcttgtct cctgagtcca    9660
gaggctcgct gtctgcattg tggctgtgaa tgacgtggga cacttgtcct accttgcccc    9720
gagtctgctt ttccgggtgg gagatcccct ttgcaggaag ctgtggtgcc agtctgtggc    9780
agcttccccc atctggtgag ctcacctgtg atacctgcct actgcccttc gcaggccccc    9840
gcccgatggc aggctgacca cacgccctgc gagcacaccc gctctcaccg ctcccctgc    9900
cacctggagg acgggtgccc cgaactcccg ggagccggat tgtctgtcca ctttctgccg    9960
gacagaaaca cttcactggg gtggtcccca cggggcgttc cttgtggctt ttctaggtat   10020
aggtttattt gtaaacacga agaactttc tttccacaga accattcagg tttattgttg   10080
gaaaataaga aaataacaca taaagcaaat aaaataaaat tgcttattca caaaatgcca   10140
ctggtggttt tttgtttttgc tttttaagta gaaagagat gtattgtaga aaatcttgta   10200
gattttaag tagaaaagag atttattgga aggatataag acagctttac aggaactact   10260
aggctggagc tcagactcaa aatagtatag gtttatttta tttgtatatg ttaatatcat   10320
gtcagtggga ggagagggaa aatgattgtt tagtcagtat cttgagctga atgttgaaag   10380
ctatcctttt tcatcagtcg cctaaaagaa ttttaatgtg tactgctact gcttttttgtt   10440
tttctacaca aatagcttct cttagttatt tttaaaactc tgtcttggcc aggcacagta   10500
gatcatgcct ggaatcccac cactttggga ggccaaggca ggaggatcac ttaaggtcag   10560
gagttcaaga ccagcgtggg caacatagaa cctgtctcta caaaagaaaa atgtaaaaat   10620
tagctgggtg tggtggcatg cgatcgtagt cccagctact agggaggctt aggcaaaagg   10680
attgcctgag cccaggaggt gaggctgcag tgagccatgt actccagcct gggcaacaga   10740
gcaagaccct gtctctaaaa atgtttataa taaaaacaaa taaataaaag ctccatcttg   10800
aatgcagact tcttcagagg tctgtacctt tggggactgc caggtccaga gtcccgggct   10860
tttcaggtcc agagcttcac tgcctgatca ggtggccacc agccacacat caccattgac   10920
cctggacaca tggctggacc aagtagctga gttggatgtg taaatactga ccagatttca   10980
aagactcagg atgaaaagaa gaatgtaaaa catcattcat attttttgata ttgattatat   11040
gtggaagtga taacactttt gatatattcg ttaattttac cttcttttt aatgtggcta   11100
```

2621

```
ccagaaaatt ccaaattata tatgtggctt ccactcgcag cttgcattat gtttctgttg 11160
gacagtagta tgccaatatc tgatcctttc agtaactggg atccagccag aggtaaagat 11220
tcctagaaaa attgtctctg tctagaccaa gcccattcaa cccacagccc accggccagg 11280
atggctttga atgtgaccca acacaaattc ataaacctta aaacatgaga ttttgtttct 11340
gtgatttttt tttagctcat cagctatcat tagtgttaat atatttatg tgtgacccaa 11400
gacaattctt cttcttccaa cgtggcccag ggaagccaaa agagtggaca cccctgctct 11460
agaccatcat cagtccttcc tggccagcgt caggtgtgca gagtaaaggt ttgtaggctt 11520
ctcatcaagc gtcaaagaaa ctagttttct tcaaatttcc atgaaataaa ataaatgtct 11580
tgggttttaa aaattgtaca attgggaaca tctttgaatg ttttttttt taagagacag 11640
catctcattc ttgtcaccca gactggagtg cactggtgta atcattgctc actggagcct 11700
caagcaatcc tcctgcctct gcctcccacg taactgagac tacaggtgtg caccagcctg 11760
cccagctaat ttttaaaaca tttttagag atggggtctt gctgtgttac acaggctgtt 11820
cttgaactcc tggcctcaag tgatcctcct gcctttgcct cccaaagccc tgggattacg 11880
ggcctgagcc actgtgcctg gccaggactt ttcttttaa ctgtgtgtgt gtcaggttgt 11940
cttgaacacc atggcgactc cctcagactt tttcatgtct tattccttgg taagaaggag 12000
ctttctagct ctgagactag gcaattagga tggttctctg aggcattctc tgtacacaga 12060
gtgtcagtca ggtgccatat gtagagagtc gttgaataat tcagccggct aatgtccaag 12120
acgtcagtac ttcgctcctt tcttcccgtt ttgtgagacg gtcccggtgg actgtgtaac 12180
cactatccaa cttcgcttcc aggttttatt tgcaccaaag tatggagcac tttcccccct 12240
tgcctgcatt ctgatgtatt tgttttcatt ttgtttttaga gagctttgct tcccaaattt 12300
ctccttcgag gacatctcaa ctcaacaaac tgtgtcatca cgcagccact aacgggagag 12360
ctggtggtgg agagctcgga agccgccatc agaagcgtgg agctgcagct ggtgcgcgtg 12420
gagacgtgcg gtgagggccg tgccaccagg cctggcgctt gcctgtcccc ctcgactgcc 12480
accctcacgt tccatggtta agaggatgct ggggggctgg gcacagtggc gcacccctgt 12540
aatcccagct actcaggagg ctgaggtggg agggtggttt gaggctgcag tgagctgaga 12600
tcgcaccatt gcactccagc ctgggcagca gagcagacca tgaccctgac tctaaaaaac 12660
gagaggacgt cggggaagca aaagtaagag cgtggctgtg ccttagcagt agccgcgtgt 12720
ctaaggaaag tgaggggagg ggaccctgga ggattcttgg agcagactgg tgggtggtgc 12780
cggtgcggat gtggaccccg cagcctctgc tggccctgac cgcgtgatgt ggcctccctc 12840
ccgcagggtg tgcagaaggc tatgcccgcg acgccacgga gattcagaac attcagatcg 12900
ccgacgggga tgtgtgcagg ggcctctctg tccccatcta catggtcttc cctaggctgt 12960
tcacctgccc tacactggag accaccaact tcaaagtggg taagtggcac tcgcctccca 13020
gccctcatgg gcccatggga agggccgctc agcgccaggg cctgctgtgg gtcacagagc 13080
tcagaacctg ccgcccttcg gtccctcagt gccagggcct gccacaggcc atacagctca 13140
gagcctgctg cccttcggct gctcaacaaa accttgttaa ggagctgctg tgccgcacag 13200
gggacacacc cacaggcagt cctggtgctt gtgggacttc cactgtcaca tggggaaaca 13260
cacagaccca catcagtgta gacatgggca ggtgacgctg agctctgtgt agacatgggc 13320
aggtgacgct gagctccgtg tagacatggg caggtgacgc tgagctctgt gtagacatgg 13380
gcaggtgacg ctgagctccg tgaagaaaac tcccgtgaac gagcaccaca ggagtggggg 13440
gtggtgtgga tactgagaaa gtggctctgt gtgaaggtcc aggaccgtg aaaaccccag 13500
agtgagcgct cagaagcagg aaggccttga gccccgcggc ctagatgcct ctagtgagtt 13560
tccatgaacc tgtgtgttca tattttaacc atgggatctg aatcaggtca cagacaccct 13620
tttatattct gccttttcc cttaacattg tatcatgaac atttccatgt ttttaactct 13680
tcctataaat attgtaatgg gacctccatc ttaataagaa tcatgttaat tgggagatca 13740
ctccacacta cgaagaagta gaacagagag acccagtagg aagggaccga gccttctcag 13800
tagcagggga ctgtgattca gagaggctcg gggacctcta ggttggaagt caggagtgag 13860
cactgcatcc acatcaagag cagcacctct gtgtgttccc ctccaattcc gtgcgagtga 13920
cctcaaatgc acggtcaggc ccgagactgg aactcactcg gactctaagc agcgcctggg 13980
tatcatggcg gctccagtgc agctgttttc ctgctgtaaa ggaaagcccc cgccagctcc 14040
ctatcttgcc tgctgggcat ccctctctgt ccactccagc cacaccctcc acccttctgg 14100
ggggcacaac aagaggggtg gagaacccat tgaagggagt ggtggcagga agtgcccaga 14160
ggactctaat gtagtgacaa taaagtgagg aaggacaggc cggccactgc tggtggccga 14220
ctcttcttgt ggctgatgtt tgggcggagg tggacactcc cacacgggga tgttgtcctg 14280
cagaccccag ccacaggtgg gcactgactc caaggcccct tccacagctg agctgccaca 14340
gtgtggggct cagcacaggg tgccctctgc ccacacgatg cccttcccac ccctcctcac 14400
actggggaag gagatggtgc ttgtttgtcg tcaggtgctt cctcttcaca cacatcccttt 14460
ttgttaggat caacaaggct cacccatatc agctgaagag tcggtggaga aggaatcctg 14520
tttgctgaaa ggtgatggat gaatagtatc caatggagca acaatgaaat tgttgcttct 14580
gaagactgtt tctcacctgg ggattgggga catgggccca gacagctatg cgctggttca 14640
cagtctgcta tttcattaag aaccgtagga aatgtaaaaa taaggcaaag gaatacaaat 14700
gaattgaaag ggttctagaa tatcctttt aggaaagcaa agggacaggg aaagtgtagt 14760
```

2622

```
tggtgaagcc tgatcactca tgttccaaga tgagaggaca aaaattcact tagagaaagt 14820
tgacagaggt agtcagacat cagcatagtc atctccactg aaagtttggc tgaaaggtca 14880
gggtggcgct gaggggacag caatgaaacc cacccgcacc gggtgctcct tcgccgttag 14940
agcttcctgc gactgcagtg gtggcggcgt gtggtttcgc tgcttggtaa cagtgagcac 15000
aaacccaccc tctcttctct tctcagaatt tgaggttaac atcgtggtgc tgcttcaccc 15060
tgaccacctc atcacggaga acttcccgct gaagctctgc aggatatagc ccggaggagg 15120
gaagcataga gaacgggagt ggccatctgg aaatccagct ggttatccaa atcctaaggg 15180
gagctacagc cagcggcata tacttgtttt tgtgattatt ctgtatcaga aatgaaacag 15240
accctcaaat taactttcct tcctcatttc ttgaggcttc tgcttccaac aggcacctct 15300
aatcagacct tttctttgaa attcaacaag atttcttaat gctatttgcc aagaccattt 15360
cacagaaaac attgactgtg gctcttgcct tatctgttcc tttttaggta cagtaaaaca 15420
attgtgacag cagtttgagc ttgctggaga gtggcatcat ggggacaaaa ggaaacctct 15480
gacttgctaa tggatgtagc cagggactcc ccatagcaaa gggtctgtgg ccagttgaca 15540
tccaggatgg ctgcaagcgc acttgatggt caggaagttt gcagatactc gccaaggcag 15600
agcgcaaagt gctagccact ggaaatgcat gacttccctc cacccctact ctattctgta 15660
gtttttttggt tttgtttctg agacggagtc tcagtctgtc acccaggctg gagtgatctc 15720
agctcactgc aacctccacc tcccaggttc aagcgactct cctgcctcag cctcccgagt 15780
agttgggatt acaggtgact gccaccgtgc ccggctaatg tttgtatttt tagtagagac 15840
ggggcttcac catcttggcc aggctggtct tgaactcctg acctcgtgac ccacccgcct 15900
tggcctccca aagtgctggg attacaggtg tgagccacca cacccagcct ctgtagttct 15960
ttttacaaca tttttcatta taactttaaa ttttttaagc aactggaaaa gtgttccttg 16020
ctctcttggg gggatttggc tggtgccgaa gtgtttctga agtctcaaga actgccataa 16080
aatctcacgc tgccatttcc ctgaacagat acatacatag agagagacag ttttccaaac 16140
tgtgtcacgc aggctgagtg cactggcagg atcacagctc acggcagcct caacctccct 16200
ggctcaagcg atccctcccc tcagcctcct gagtagctga gactacaggt gagtgccacc 16260
acactcagct aattttcaaa ttttttgtag acagggtctc cctatgttgc ccaggctggt 16320
cttgaactcc tagactcaag tgatcctcct gtcttggcct cccaaagtgc tgagattaca 16380
ggtgtgagcc actgtgccca gcagtttccc agaatatatt taaatgcaaa gttacatgag 16440
gggaaaacat gtatgtttgc tcctgttgtt actgggtagg ttctgaacag cagaaaccca 16500
tgtgcagggt gggctggtga aggcccctct ccgcaaggtg gtagcaggaa aaggtccttg 16560
acttgatgaa tttggtctgc ctctgagcca ctggaggaag ctgttttgag ccagggtttt 16620
ttggcctaaa gccagcattt cctcagtctc cctttgtggt tcgaaggata tggactattg 16680
caatacattt cttccttcaa atcctgccac tgttttgttg gcccacaact aataggacct 16740
caaaataagc catgctgctt tgcacacaca ctagccttct tttgtacttt tcattctgga 16800
tgggcttggc caaaacaggc tcaggccaaa gacctcccaa gctgtatgta cttccagtat 16860
cctgaaacag tgtttggtga cataatgcca agggtaaaca agcctgattt aggcactgct 16920
ttatccaggg gcttcaccca tgaaattaat aaaacttatc tgagtcactt gaaacttggt 16980
tcccagaaaa cacatttctg gtttataatc tcctttatg ctcacctgac attaattatc 17040
tatccttgat gatgtgttta aactgagtag cagaaaacag aggccacact ttctgggaaa 17100
ttttaaagga agaaaccatt tttaatgaga tgaaaatatt taacgaattt aaaaagctaa 17160
tgacaatttt gagaaaaggt ttgggatgta tattgctatg taatttaata aactgatttt 17220
atggatataa atatgactgc tttccttaga gaataattat tacctgaagc gcatccagac 17280
aacgtggcta cctttatcat ttcattcaac cctgagtggc ccaaacaaag gcctcaggcc 17340
ggccacttcc ttccacttct tggtctgacc tctccatgat ctgttactag gcaaaactca 17400
gatgtttggc taccttgggc tgcaactgtc ccactcttgc ccaggcttgc tggagttggg 17460
gttatccaca gtcagaggtt cagagttgtc aaattctcca attagagcaa gagatgagga 17520
aaggaaaggg agacgaaaga aagaggctgt gcctcagaaa taataacgcc gcatatctac 17580
aactatctga tctttgacaa acctgagaaa aacaagcaat ggggaaagga ttccctattt 17640
aataaatggt gctgggaaaa ctggccaacc atatgtagaa agctgaaact ggatcccttc 17700
cttgcacctt atacaaaaat cagttcaaga tggattaaag acttaaacgt tagacctaaa 17760
accataacct aggcattacc attcaggaca taggcatggg caaggacttc atgtctaaaa 17820
caccaaaacc aatggcaacc aaaggcaaaa ttgacaaatg ggatctaatt aaactaaaga 17880
gcttctgcac agcaaaagaa actaccatca gagtgaacag gcaacctaca aaatgggaga 17940
aaattttcgc aacctactca tctgacaaag ggctaatatc cagaatctac aatgaactca 18000
aacaaattta caagaaaaaa acaaccccat caacaagtgg gtgaaggata tgaacagaca 18060
cttctcaaaa gaagacattt atgcagccaa aaaacacatg aaaaaatgct catcatcact 18120
ggccatcaga gaaatgcaaa tcaaaaccac aatgagatac catctcacac cagttagaat 18180
ggcgatcatt caaaagtcag gaaacaacag gtgctggaga ggatgtggag aaataagaac 18240
acttttacac tgttggtagg actgtacact agttcaacca ttgtggaaga cagtgtggcg 18300
attcctcagg gatctagaac tagaaatacc atttgaccca gccatcccat tactgggtat 18360
atacccaaag gactataaat catgctgcta taaagacaca cgcacgtgta tgtttattgc 18420
```

2623

```
ggcattattc acaatagcaa agacttggaa ccaacccaaa tgtccaacaa tgacagattg  18480
gattaagaaa atgtggcaca tatacaccat ggaatactat gcagccataa aaaacgatga  18540
gttcatgtcc tttgtaggga catggatgaa attggaaatc atcattctca gtaaactatc  18600
gcaagaacaa aaaaccaaac accgcatatt ctcactcata ggtgggaact gaacaatgag  18660
aacacatgga cacaggaagg ggaacatcac actctgggga ctgttgtggg gtggggggag  18720
ggggagggat agcattggga gatataccta atgctagatg acgagttagt gggtgcagcg  18780
caccagcatg gcacatgtat acatatgtaa ctaacctgca cactgtgcac atgtacccta  18840
aaacttaaag tataataata aaaagaaaa attgcttcaa atgaacaaca aaaaaaaaga  18900
ggctgtgaac aatgaatcta aaacaatatt ttcttttggg aaatgcccgt tttggcagga  18960
atacattttg gctccgctgt gctgtgaatt cggaggaaaa gtagggaggg ccggaaagcc  19020
cagggcttca tgcagagtag acatcaagaa cccacctgct ctggagtctt ggtgggcaag  19080
gggaacgaac cttccagtcc atttctaccg tcaccataat tcctgtgtct gaatctgaat  19140
caccttcttc aaaaactggg ggctgaggtt gcctccacat gctaacgctg attcagggcg  19200
gcagcagatg ctggtgttct cagttccttc ctgcttccgc ttcctgttca ggaacagggc  19260
cgcattttcc catcctcttc ggctgtaggc gtggtcacgt gaccaggagg gcggggcgcg  19320
cctgcctagc atacgctgga ggacggcgcc ctcaccctgg cgggaggtgg atccccagcg  19380
cggtgcagtt acatcgcaga catgggctcg tctatacgct gctggacggc cggggtctgg  19440
gctccacagc cggggggcac caccctggag ctggtgatag gggagggaat cgccgctcgg  19500
gcgcccgggc ctcgcgcgga gcctgcgtgc gcgggagttc acggggcaaa tcctgcccat  19560
cctccgcgct caggcgtggc ttcaaaagcc tcgggccggg tggtgcagcc ccagcataac  19620
ctggcgcccc ggtggctgct ggagtggttg gctcagaatg gaaggaaacg gtggggtctg  19680
cgttactctg tggtgataaa aaagagaagc ggcagcttag cgccaagaat aaatgatgac  19740
cgccggaatc cctgccgtta ggcgcaggtc ttggcatgag agctgcaaca gggcggccag  19800
ctgggcgcca ggggggcctgg gccgcctgtc cggtgcgggt ccccgaatat cctgggctct  19860
tccgggaagt gccgctgcgg tgaggccaga gcctcccgct acggaggatg cgatgtgatg  19920
tgctgtgcgt tgctctactc aacggagcgc cattcccgtg gtttcgcctt gctgcagttt  19980
cagtagatac cggctattga ttttggtctg agactcgcag ccatgtgaac attagtgtta  20040
ttctgggtca ggccgtcttc taagtgctgt atgttacctc gttatagcga ccctgtgagg  20100
agggaactgt tagtagcatt agcagtctag gaaaagaaat ccattttgcc aggcgcttgt  20160
ccatccgtct gcgcacctcc ccaccgttcc atcccaggcg agcagtctgt aacgtggtgc  20220
agttttgcct gcgctgcagc ccattctttc acctcgcttc atttgggttt tactttgccg  20280
tgtcattgac aagttttct atgcatttgt tcccatgtat gcatcacagg ttattagctg  20340
cgtcaccacg tgttgagacg cgcgaagggc tctgttacct cttcatggtt tgaattgtta  20400
cgtcaccctg gcgttcttga acaaagaatt ggacaaaaca cacaaagcaa ggaaagaagg  20460
aagcaacaaa agcagagatt tgttgaaaat gaaagtacac ccacaaggtg ggagcagccc  20520
atgaggctga agggcccggt gacacaattt tctgggattt aaataccctg tagaggtttc  20580
ccattggtta cttggtgtac accttgtgta aatgaagtag tggaccataa tcagtctgat  20640
tggttgcagg agaggaccaa ccagaggctg aagcgaagtt ataaagctat accctatgca  20700
aacatctgat tagttgcaga aagcaaccaa tcagaggctg aagttacaaa gttatactcc  20760
catgcaaatg aagtcttgac ctgtgaacag cctcattggc tgtgggaggg gaccaatcaa  20820
aggtacttag agtttatctg ccacgtggaa aaagggggt tgcagaggga gtagcctctg  20880
gtccttttgt tacttggatg tggaaagttg gggtttcct tttgatttag ttctaggaag  20940
tcagcgtgaa ttgggcttag gtttactgcc tccagaccct attctcctgc ctcagaatgg  21000
tctcagtttt gatcagctga gtcaaatgaa aatgaagtcc tgagactaac gcaatcattt  21060
gcagctggat ccagtttagg aaggaggcga gtgattaaag gaccagaaag tccgatctaa  21120
ttatattcta ggactgattt cttctatgta gagtaaaaat actagggtat gttccagacc  21180
cattcaaagg actgaaatgt cctttagtga atgacctcac aataccttct gaggggtgtt  21240
tattattccc atctcacagg tgagcaggct gaggcacaga gaaactgacc tgcctaagcc  21300
acgtagctct gttgattctt ggcctgatat tcccccaact tactacaacc aacacagaat  21360
tacagtagac cgccattgcc ctgccatggg taagacctca ttgatgggga cacgatcagt  21420
tcttcgtgaa ccattactgt tgaagccacc attcatcatt tccagctggt tttcaaaaag  21480
gtagaataaa gttttatgcg aagaaatcag ttttcattgt gagagctacc caagctaact  21540
cattttggga ctccgaataa gagtagatat taaaaacaca aagcagaaca actgcccggg  21600
aaaatgctct atgaaggtaa ggtcttcttt cgaatataaa cagttctgca acctaaaggc  21660
tgtcaaaact agccactttg gtagggagaa aaaaaaatca tacatgtgag tctaagaggt  21720
ggaggtgaga ataagcctcc tgggtcagca tcttctccac tatggccact gaaaattatt  21780
catatttgag actatcttaa gtggctacag tggtcagaga atatgacatt actaagaaac  21840
agaagggcac ctaatttgta gaatcaaagc ggatccagct atactcacac aaaatgcagt  21900
caaattatta gagtgtatca ctcaaaagat gcagaaaggc agactgagga attaaaactc  21960
agcaaggatc tcctgtgctt tactgtgctt ttctatgaat gtcactggta agatggaatc  22020
ccttggatag accccgctcc aggccggcag gattctgact ttgtagggct tttcatgtcc  22080
```

2624

```
aaccccagcc agtctcttta cagtcttgtg tataacatac aaaagacata tgctgtggag  22140
gttttaagta cttagaaaag tatgaaaaca gaatttgtgc ctatgtctgt atattgtcgc  22200
attctgggga gtgccagctt gatcaggact aagggtcagg ataataccaa aagtttatgg  22260
tttactgtca tctgcatcaa ctgtcatttc cccaaaagat gtttctggtt ccctttacaa  22320
acgtccagct gtggtaggag gctgagcatg aagacttagg gacaaagcaa ctcaaacgaa  22380
aagcattatg agaggtaggg tttggtcagc aaaggcccca taaagcaggg tgtggtcact  22440
tcctttctca gaggtcactg tcccccacct gggtcaagga ctagaccttc aagaactaga  22500
ccacaacctc tgggtcttaa gtgaaaggaa ggagaccagc ttttctgtct acagatgtat  22560
agcctctgat ggggccacct ggggaggctg gccaggagc ccagatgtac tgccgcatga  22620
tacaccaaaa aaggatgcac ccaggcttag ctgcagaaag gtgagagaaa ggagcaaaaa  22680
actaaaatct taaatattca tgtttgtttt aaaacaattt tcgacaccaa tatgtattaa  22740
gaaaacacaa gttcaaagtt gaattcaaaa tcccctacat ggctgggcgc agtggctcat  22800
gcctgtaatc tcagcacttt gggaggccga ggcaggcgga tcaattgagt ccaagagttt  22860
gagaccagcc tggccaacat ggcgaaaccc tgtctctaac ttaaaaaaag atagaaaaat  22920
tagctgggca tggtagtaca cacttgtaat tccaggtact ggggaggctg aggcatgaga  22980
attgcttgaa cccaggaggc agaggttgca gtgagctgag atcacgccac agcactccag  23040
cttgggtgac agagtgagac tctgtctcaa aacaaacaaa aaagcaaaat cccatacata  23100
aaaaagatat gcttaagaag tgagtgtact tttaccacga ttttccttta tatctggtag  23160
caaatacatg tttttaatc catggaaact gcaaaaatca gttacatgca tagcaacaaa  23220
ggaaatcaca attggctggg tgcggtggct cacgcctgta atcccagcac tttcggaggc  23280
cgaggcgggc agatcacgag gtcaggagat cgagaccatc ctggctaaca cggtgaaact  23340
ccgtctctac taaaaataca aaaaattagc cgggcgtggt ggtgggcgcc tgtagtccca  23400
gctactcagg aggctaagac aggagaatgg cgtgaacccg ggaggcggag cttgcaggga  23460
g                                                                  23461


<210> 5697
<211> 23461
<212> DNA
<213> Homo sapiens

<400> 5697
ttttctctcc caggaagtgc tctctggcgt ggtggtcata tcgagtaagg attcagtcca  60
acaccaggga gtgtctttga ccatggaagg aactgtaaac ctccagctca gtgccaaaag  120
tgtgggtgtg tttgaagctt tttataattc tgttaaggta agaaagaatg cttagattgc  180
aagttttttag ttcaatattg aaatgttggg ctgggcgcag tggctcaggg ccaggcgcag  240
tggctcaggc ctgtaatctc agtaatttgg gaggccaagg cgggaggatc gcttgagccc  300
aggagtttga gagtagcctg ggcaacatag caagacccca tctctataaa taaactttaa  360
aaattagccg ggtgtggtgg tgcgtgcctg tagtcccagc tactcaggag gctgaggcag  420
gaggatccct tgagcccagg aattcaaggc tgcagtgagc tatgatcaca gcactctact  480
ccagcctcag caacagagca agataccatg tctcttaaaa aaagacatgt ttatggtggg  540
tttcacttgc tgtgtgcctt tattgttatc tgttgttatt ttgcaaggga tggtggtagt  600
tacacttctg atatttacta atcaacctgc gaaaatggag atactttgtt ctaagtata  660
tcctgttatt gaaagtctgc ttatatttat tcctatttga taaataggat taggagaact  720
ataaatgtat taatttcagc cattaaaaag atcacacctg ggtgcagtgg ctcacgcctg  780
taatcccagc actttgggag gctgaggcag acagatcacc tgaggtcagg agttcgagac  840
cagcctggct aacatggtaa aaccccgttt ctactaaaaa cacaaaaaat tagcggggtg  900
tgatggcgtg tgccccagct acttgggagg ctgaggcagg agaatcgctt gaacccagga  960
ggcagaggtt gcagtgagct gagatggcgc cattgcactc tagttgaggc aataagagca  1020
aaactccatc tccaaaaaaa aaaaaaaaag atcacagctc ttctgagaag ttgtgcctgt  1080
ggcttatgtt acatgccttc caaaatcaaa actgtcattt tattagctgt gtctatgcta  1140
ctgttgattt gacactaagg taagatgaaa atagagcaag taactgttgt ttttgtcatt  1200
tagggtagag ttttgtgttc cagaatgtaa actctttctc tattcttgta gttgcctttt  1260
cctgaaggac atattaacgc tttaagtttt gcaggaaaa gagtgaagac agagaaaggt  1320
gcattcacag tgttcagatt taggggcttc ctatgttttc tacaacttta ttttaatcca  1380
ttagtactta agagattcac ttcctaagtc atgggtcttc tccgagccac tgatgttaaa  1440
ctataaatgc ttaaaaagca tgaatacgtg ccttgaaggc aggttccaaa tgttagtacc  1500
ctcctgctcc tccttggagg cccagctgag gaggtctgtg caggccacag ggctggagga  1560
aaggcctgct ctccctgagc ggctgcagca ggaaggctcc gaggaagctg gtgggctgtc  1620
aggagcagag gcagcgctgc ccagaagagc acggggctcg gtgaggggga ccgtgggtt  1680
cacacgtcaa ccctgttagc caggcagcct cactgtgctg ggtctgcttc ttgatcctga  1740
```
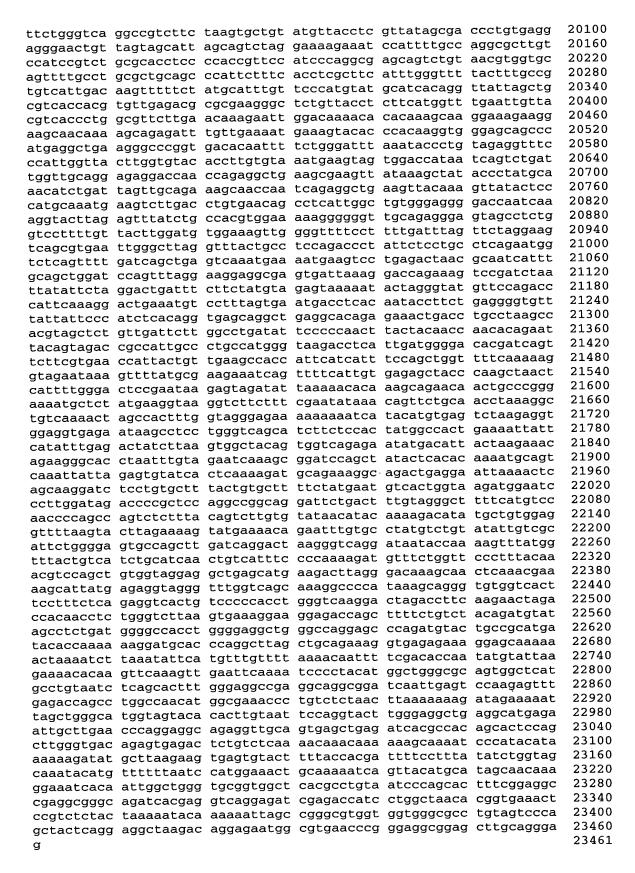
2625

```
agatcggggt cgttaaaaca gttaaatgag atacctgggg aggagagagg gatgtatcag    1800
ttcagttccc atgtgtctca agcacctatg tgtctcatgt tgtaaatgaa tcattattgt    1860
gccagagtct taaaaagcag agccaagtca ctgttcatct ccagacccag cgcagagctg    1920
ccgaagacag caggatggtg gcctccaggg ggtcggggtg ctgtgtcctt cagaacgtta    1980
ttagtaattg gaaaggacat ttccaagtgt gtgctgatgg actgaactga tttttgttta    2040
cagcctatcc agattatcaa cagcaccata gaaatggtga agccggggaa atttcccagc    2100
ggcaaaacag aaatcccttt tgaatttcct ctgcacttga agggtaacaa agttctgtat    2160
gagacgtatc atggcgtgtt tgtcaacatt caggtgagag cttcctagtc ctacgcgact    2220
gacttcacaa gttttcttct gacaaacggt gtggtctttc tctcaacgtt agtagacggg    2280
cccaagaatt taatactgtg tttattgctg agacctcgca tgtatattcg acgttaattt    2340
ctcatttccc tgataaatgc atttgatgta tggccgttat ttctgatggg agcctcaagg    2400
cactcgtgct gtaacttctt ttccctctgt ttcttctggg ctcttttcag gccacctcac    2460
attgtaaggg atgctttttat tgtctggtaa cagatatgcc ctaacttctt tctggcacta    2520
gcattaactt gtctgtttta tacttacaag tatctctttg tttaacaccc aaaggctact    2580
actttgacat aggctggtgt tctttactga acaaaccttg tcaatgaggg gaagtggatt    2640
atgacttcct gtctacctct gctggttaag ggacgtcttt gacagtctgc tgttgttgtc    2700
tcaggagcag tggagtccac gcggggtgag atagcctttc ctttatgcag cagaaagaaa    2760
gatacttttg tgatagcagc ctcgcagcac ttcccttgct ggatgagaca caactcttca    2820
gtcttatatg caagagggat gaaagtcagg aattttttg atttattaag ttttggtcaa    2880
taatttggcc ttagtagata cattatcctg ctgaaaataa tagaaccttt aaaataaaag    2940
cccccaaac ccctgtgagt gtttaaagat tcatctgtat gggagtttta tgaattgcct    3000
aagagatctg tccagaggaa acacatgtag tatgatgtac atcttctgtg aagaaaagaa    3060
gtgtttctag tcctttattg ttagcaccaa aggctttgga cagccccaag gaagcagcag    3120
tgatgactga gtagtacctg gattcagagg aagctgcgta cgtagccatg cagataccaa    3180
ttgctggtat gtgggtggga gtcttctgat cagctttcta ggttgggact gtttccaccc    3240
tgaaagaaac tgaatgaaaa atgccttttt ggcaatactg aagatatctt gaacattgat    3300
tttggaaatt atttttatta tctacccaga atcagtatcg acttgcttta tccacacggc    3360
agttctttaa tatggttgat ttaaaaatac aagaatatgt tcattagaaa ctggaataag    3420
atcacgtttt cagtgatcat atttgttaac tcctgcgttc atcaagactt accaaaagaa    3480
gatgaatttg tttaaagtca aattggaaac cccatccttt tccacatgtt gccaagacag    3540
atgttcagat atacatagaa aacgtgtgtg ctggccaggc acagtggctc acgcttgtca    3600
tccctgcact ttgggaggcc atggcaggag gattgcttga acccaggagt tcaagaccag    3660
cctgggcaac aacgcaagat ctcatctcta caaaagaaaa caaaacaaaa agcttgtgtg    3720
cttctgttgc tgcagagctg tgtgtacatt ggaggctact taaaatatag taggagagtt    3780
aacaggtggt gggttcctta gtaaagggaa taattgcccc taccctcgtc ttttcatcat    3840
cagattttac catttgaggg ttaacctcag agtactacaa ·tttggaattc agtacctccc    3900
caactatctc accgatttct aacaatgaag agatttctta gcttaacctc tgatttccat    3960
gactttatca cacttattgt cattcagcac ttaatagtat tttgccatct ttgttcacct    4020
aaaaatttag attttttct aaatcatttt aaagttagtt tcagagtctt gatacttcat    4080
ctcaaaatac ctcattgcgc atctccaaaa actaaggacg tttgtctcta taattacagt    4140
taacatttgc acacctatca gaatttgtaa aaattctcaa gtattgatta attcttgatt    4200
catatcaaaa tttgtcgtct tttgagaaaa taaatttaag agaaactaag attatgtttt    4260
tttaaatctg tcatcatcca tccatccatt cattcattca tgccattatt tggcaggtct    4320
ttttcttaca gttttatagt agagcaagtg ccgcccagag acggcagtga cttcctgtgg    4380
tcacacaggc cagcctcagc ctgcgggtcc agaccagcac tcctcggccc gcactgttta    4440
ccgcacttac tctaaaggtt aacataggca catttctttg gatagaaact tttgttgcta    4500
aaccctaata tcatctttct taaattatgt gccaagaaat ttttcattca taaattgaat    4560
tgtgttgtaa caatctaaaa cggtaaaaat cataaatcag aataaaggat ttaaaagata    4620
gacgtgctgg gtgcagcggc atgcacctgt aaacccagcc acttgggagg ctgaggtagg    4680
agaatcactt gagcccagaa gttcaagtcc agcctgggca acatagcaat acctcatctc    4740
ttaagaaaaa aattttttaa ttaaaaaaaa aaatatatat atatatatat atatatatat    4800
acacacacat atacacacat atatatgtat atgtatcaaa tgccagtatt atattcctga    4860
cttccagagg cttggctttc ttgtcatttt ttagatgaag agcttgacat tcttctcagt    4920
catgttgcgt tcatgtttgt ctttgttact agatacttca tatgatcatc agagtcttcc    4980
gtagttgccc tttgtgcatc tacttcttct ttttacaata atttaaattg taggcaagtt    5040
ttattaggtt tgttctactc ttgctttact cttgtagctg tgctagcaag cgtttatcct    5100
atcacataaa acatgtctgc tgaaattgta tattcagcac tcatttctag agatcctagt    5160
catccctttt caaagttaaa aattcctttt ataggaatct actttaaaac tatggacagg    5220
gctgggcacc gtggctcacg cctgtaatcc cagcagtttg ggaggcggag gtgggcagat    5280
cacctaaggt caggagttcg agaccagcct ggccaacatg gtgaaacccc gtatctacta    5340
aaaatacaaa aattaggcca ggcacggtgg ctcacacctg taatcccagc actttggaag    5400
```

2626

```
gccaaggcat gtggatcacc tgaggtcaag accagcctga ctaacatggt gaaaccccat    5460
ctctactaaa atacaaaaat tagccgggca tggtggtgga tgcctgtaat ctcagctact    5520
cgggaggctg aggcaggaga attgcttgaa cccaggaggc agagtttgca gtgagccgag    5580
atcacgccat cgcactccag cctgagcaac aagagtgaaa ctccatctca aaaaaaaaaa    5640
aattagccag ccatggtggc gcggcccctg taattccaga tactcaggag gctgaggcaa    5700
gagaatcact tgaaaccagg aggtggaggt tgcagtgaac cgagatcacg ccaccgcact    5760
tcagcctggg tgacagagtg agactccgta ttaaaaaaca aaaaaagaat atatatattg    5820
tatatatatt ctacataaag atccttgcag acaaggatga ttcttttaaa caatgtttta    5880
ctctcccagt agtaccttaa atatatatag taacttctta tttcatgcgg acaggttgtt    5940
catacgaata ttagcttctt ggaagattca gttatgcata gagtccgagt tatgaaaatt    6000
attttttgaca taattctgaa gttttttcctg gacgattaaa acaacaacta actttattaa    6060
acgtggatta tgtgattttt ttttaaagac tggcattaca acagtggtcc tgctgtagaa    6120
ttacattttt aaatagtctc tcagctcacg gacagggatt tgaagcaaca gtctccgttc    6180
aaagcctgct ttaagctcaa taccagctct gcagtggggc tcccctgggg ggaatagagc    6240
tcaccttgca gtaggcacca tggtagcaac cagctcagaa aactaaccta gggacagcag    6300
agaaatggaa tgcggctctg ccacattaaa aaagcaagtg tgcaagtgcg atgctacatt    6360
gttttccaac ccacttttttc tttgaggtgc aggctacatc tgtgtgttgg cagatggaga    6420
gagacctcag atgtctcgag aaataagatt agccatgagt tgacccttgt ggaagttggt    6480
tgatggatgt gtgggttact gcatattcag taaactagaa gttccctgag gaccaggtgt    6540
gaccttgagc ttggctctgg tgcccagggc agtgctatgc actcagagca ggtgcccagc    6600
gaggaagggt tgtgacatgc tgggtgctgt cccagggttg cagtcctcac tgcatggatt    6660
ttctaatccc gcttacaaag tagctgctgt tttccagcat tgctttgtgc cagccctgtg    6720
ctgagtgctt gtcacacatg atctcattgg agtctcgctg caggtgggtc ttaagagccc    6780
cattctacag aagggaagca gaagctcaga caagttgtgt tatctgtctg ggctcgcaca    6840
gtaaggcaga caacaacggg atctggcctg gcgtctgctc ctgagcgcac tgccctttct    6900
gtctcgccag cctgctccct gctacaggtg ggaccgtgca cctgtttgcc agtgggtcca    6960
actgcaggcc agctgtgcaa acagattgaa gaataacctt aaagtggttc atttttaaaa    7020
cagaaatgcc tttattttga acattaacta tcctattatg tattatatta tgtatgttaa    7080
ttttctataa tgcactgatt gtacaacatt tccctaaaat atgttgactg acttgtctct    7140
ttgaatataa ttccaagatg aaagcaaatc ccactaaaat gaactttttt cctccaactc    7200
tccccttttag tatacactgc gctgtgacat gaagcggtct ctgttggcca aggacttgac    7260
aaagacctgt gaatttatcg ttcactccgc tgtaagcttc actcggggac tctggtgctt    7320
aatgatagga atctcccatg gggtctgaga gtttaccta tttacaagct caccatttag    7380
cctcttactg tttcacgggt gctggcagaa gacacaagac ttctgggtca gagacagtcg    7440
gtggcatgcg catcacgtgt gcatcattgt cctgggccca gagtccccca gctgaggccg    7500
cgggccagag ggactccacg tcggcacatc aggcaggacc tttcctcccc ctggctctct    7560
ggatggtaga ctggcccttt gcatcccagc ccctggataa aaaatgccag gcaggctctc    7620
atgaagctcg gctgtatctg tagattctga aattatgtaa catggaggtg atcactgtta    7680
ctgctgtttt ggtaacgttt aaagtatgat tcttcaggtg acagctctat agctcagagg    7740
ccaatagcaa cctgacctcc tgggttcaat gctcagcccc ccagctccac cactgagctg    7800
agcaggccac tgagctctct gccccgcttg cctcgtctgt gaagtgggac catctgggag    7860
gtgtgaagag ccctttggag ggtcactgtg ctgaggtttc aaataagtac ttgccaataa    7920
cactgttctg tttcttagat ctgattttaa aattctgaat ctgaaaggca cgttggagat    7980
taagacatct ctccctcat tttacagatg aggaaactga gtttcagcaa gatggggaaa    8040
tttgacagaa ctgtgttcag gacccaggct tgcgcctctt agttccccgt ccttcctgca    8100
tcgccaggct gccgttggtt tatttttgaa agggaaaagc tatttgacct gcagaactct    8160
tggccttcac ctactgattt cggtttcacc tctcgtttta gcctcagaag gggaagttta    8220
ctcccagtcc cgtggacttc acgattacac ctgaaacctt acagaacgtc aaagaggtaa    8280
gacgtcctgc acaggcgaat gccgtgggta tcttcccagc agccagaccc cacggactag    8340
ctattgcccg ggtggtcttc atttggaaat cacgtcatca gccggcagag atttctgatt    8400
gtacccaaat tactcagtat tttccatttg atttcctttt taagctcagt aaagcagctt    8460
agaagaggac tgcttttgaa aagttcctca gggagggtcc atgtctatta atctcaccat    8520
tttccctcag ttttactgca tcatgggccc ccaagacccc ctgctgccca tgacacggcc    8580
acgtcccttc atttctcatg gttagccggg gcctgcgccc ggcccctgg cctgttgtca    8640
tcctccatgg atgtttagtt tgcagtttct tccccagcat tcccatcaga cagaggccgg    8700
gcagcaacgt gcttttcaaa gattccgcag tgccctccgt ggtggacgcc tcacggccag    8760
ggcaggtaca gtgaggacac agacgcctgg gcagtgccag cccagctccc ccgcctcctg    8820
catcaggaca gggctgtctg gctgtcagtg gcagccgctg gtggagcctc agctggtccc    8880
tcgagctgca cggtgaactt gggcccgtcc aaaactctgc ctggccccgg cctccctgat    8940
cttgccctct catccactgc catgcatttc tcctaaacag tggagtcctg tagttcttcc    9000
tggatgtaac ttttcatcct tcctctaatt ctttattctg ctgtctggac cacactgact    9060
```

                                  2627

```
aggatcaagt gaaggacaag ctgggaggcc tgggccctgg gatgtcattg gcctcatccc    9120
tcagaggctg gacatgtgtc gtgggggagcc tttcagacag gtgagggagg aaaggccact    9180
cctctgtctg ttctgcacgt ctcccttctc cgggctctga gggcacgcga ccccagtggg    9240
ccactcagac tcccgtctcc cacctctgta gcctgtcttc ggaagcgctg acctcagcag    9300
taatgtgatt catttctaga caccgtttct tcttcgggat agctgctgct tccatgacgg    9360
acgcagtggc ctttcatctc cttttcctgt attgattctg tttctcaggg gttggttctg    9420
tttgtcgagt gtgtgtgtct ttttcttgct tttgttttcc ttaaatgtgt attgatcctc    9480
ggttgtcagt ttacatttac aaatgaggat ctaatgtgtg tggtggtgtt gtagaggctg    9540
tatccttagc ccaggtgaga acctgttctc ctggtcctca gcacctgctc atcagaggcg    9600
ctctgccctg ggtgtggcac gtggccgggg tgtttgtagg cagcttgtct cctgagtcca    9660
gaggctcgct gtctgcattg tggctgtgaa tgacgtggga cacttgtcct accttgcccc    9720
gagtctgctt ttccgggtgg gagatcccct ttgcaggaag ctgtggtgcc agtctgtggc    9780
agcttccccc atctggtgag ctcacctgtg atacctgcct actgcccttc gcaggccccc    9840
gcccgatggc aggctgacca cacgccctgc gagcacaccc gctctcaccg ctcccccctgc    9900
cacctggagg acgggtgccc cgaactcccg ggagccggat tgtctgtcca ctttctgccg    9960
gacagaaaca cttcactggg gtggtcccca cggggcgttc cttgtggctt ttctaggtat    10020
aggtttattt gtaaacacga agaactttc tttccacaga accattcagg tttattgttg    10080
gaaaataaga aaataacaca taaagcaaat aaaataaaat tgcttattca caaaatgcca    10140
ctggtggttt tttgtttttgc ttttaagta gaaagagat gtattgtaga aaatcttgta    10200
gatttttaag tagaaaagag atttattgga aggatataag acagctttac aggaactact    10260
aggctggagc tcagactcaa aatagtatag gtttatttta tttgtatatg ttaatatcat    10320
gtcagtggga ggagagggaa aatgattgtt tagtcagtat cttgagctga atgttgaaag    10380
ctatcctttt tcatcagtcg cctaaaagaa ttttaatgtg tactgctact gcttttttgtt    10440
tttctacaca aatagcttct cttagttatt tttaaaactc tgtcttggcc aggcacagta    10500
gatcatgcct ggaatcccac cactttggga ggccaaggca ggaggatcac ttaaggtcag    10560
gagttcaaga ccagcgtggg caacatagaa cctgtctcta caaaagaaaa atgtaaaaat    10620
tagctgggtg tggtggcatg cgatcgtagt cccagctact agggaggctt aggcaaaagg    10680
attgcctgag cccaggaggt gaggctgcag tgagccatgt actccagcct gggcaacaga    10740
gcaagaccct gtctctaaaa atgtttataa taaaaacaaa taaataaaag ctccatcttg    10800
aatgcagact tcttcagagg tctgtacctt tggggactgc caggtccaga gtcccgggct    10860
tttcaggtcc agagcttcac tgcctgatca ggtggccacc agccacacat caccattgac    10920
cctggacaca tggctggacc aagtagctga gttggatgtg taaatactga ccagatttca    10980
aagactcagg atgaaaagaa gaatgtaaaa catcattcat attttgata ttgattatat    11040
gtggaagtga taacactttt gatatattcg ttaatttac cttcttttttt aatgtggcta    11100
ccagaaaatt ccaaattata tatgtggctt ccactcgcag cttgcattat gtttctgttg    11160
gacagtagta tgccaatatc tgatcctttc agtaactggg atccagccag aggtaaagat    11220
tcctagaaaa attgtctctg tctagaccaa gcccattcaa cccacagccc accggccagg    11280
atggctttga atgtgaccca acacaaattc ataaacctta aaacatgaga ttttgtttct    11340
gtgatttttt tttagctcat cagctatcat tagtgttaat atattttatg tgtgacccaa    11400
gacaattctt cttcttccaa cgtggcccag ggaagccaaa agagtggaca cccctgctct    11460
agaccatcat cagtccttcc tggccagcgt caggtgtgca gagtaaaggt ttgtaggctt    11520
ctcatcaagc gtcaaagaaa ctagtttttct tcaaatttcc atgaaataaa ataaatgtct    11580
tgggttttaa aaattgtaca attgggaaca tctttgaatg ttttttttttt taagagacag    11640
catctcattc ttgtcaccca gactggagtg cactggtgta atcattgctc actggagcct    11700
caagcaatcc tcctgcctct gcctcccacg taactgagac tacaggtgtg caccagcctg    11760
cccagctaat ttttaaaaca ttttttagag atggggtctt gctgtgttac acaggctgtt    11820
cttgaactcc tggcctcaag tgatcctcct gcctttgcct cccaaagccc tgggattacg    11880
ggcctgagcc actgtgcctg gccaggactt ttcttttaa ctgtgtgtgt gtcaggttgt    11940
cttgaacacc atggcgactc cctcagactt tttcatgtct tattccttgg taagaaggag    12000
ctttctagct ctgagactag gcaattagga tggttctctg aggcattctc tgtacacaga    12060
gtgtcagtca ggtgccatat gtagagagtc gttgaataat tcagccggct aatgtccaag    12120
acgtcagtac ttcgctcctt tcttcccgtt ttgtgagacg gtcccggtgg actgtgtaac    12180
cactatccaa cttcgcttcc aggtttattt tgcaccaaag tatggagcac tttcccccct    12240
tgcctgcatt ctgatgtatt tgttttttcatt ttgtttttaga gagctttgct tcccaaattt    12300
ctccttcgag gacatctcaa ctcaacaaac tgtgtcatca cgcagccact aacgggagag    12360
ctggtggtgg agagctcgga agccgccatc agaagcgtgg agctgcagct ggtgcgcgtg    12420
gagacgtgcg gtgagggccg tgccaccagg cctggcgctt gcctgtcccc ctcgactgcc    12480
accctcacgt tccatggtta agaggatgct gggggggctgg gcacagtggc gcacccctgt    12540
aatcccagct actcaggagg ctgaggtggg agggtggttt gaggctgcag tgagctgaga    12600
tcgcaccatt gcactccagc ctgggcagca gagcagacca tgaccctgac tctaaaaaac    12660
gagaggacgt cggggaagca aaagtaagag cgtggctgtg ccttagcagt agccgcgtgt    12720
```

2628

```
ctaaggaaag tgaggggagg ggaccctgga ggattcttgg agcagactgg tgggtggtgc 12780
cggtgcggat gtggaccccg cagcctctgc tggccctgac cgcgtgatgt ggcctccctc 12840
ccgcaggggtg tgcagaaggc tatgcccgcg acgccacgga gattcagaac attcagatcg 12900
ccgacgggga tgtgtgcagg ggcctctctg tccccatcta catggtcttc cctaggctgt 12960
tcacctgccc tacactggag accaccaact tcaaagtggg taagtggcac tcgcctccca 13020
gccctcatgg gcccatggga agggccgctc agcgccaggg cctgctgtgg gtcacagagc 13080
tcagaacctg ccgcccttcg gtccctcagt gccagggcct gccacaggcc atacagctca 13140
gagcctgctg cccttcggct gctcaacaaa accttgttaa ggagctgctg tgccgcacag 13200
gggacacacc cacaggcagt cctggtgctt gtgggacttc cactgtcaca tggggaaaca 13260
cacagaccca catcagtgta gacatgggca ggtgacgctg agctctgtgt agacatgggc 13320
aggtgacgct gagctccgtg tagacatggg caggtgacgc tgagctctgt gtagacatgg 13380
gcaggtgacg ctgagctccg tgaagaaaac tcccgtgaac gagcaccaca ggagtggggg 13440
gtggtgtgga tactgagaaa gtggctctgt gtgaaggtcc aggacccgtg aaaaccccag 13500
agtgagcgct cagaagcagg aaggccttga gccccgcggc ctagatgcct ctagtgagtt 13560
tccatgaacc tgtgtgttca tattttaacc atgggatctg aatcaggtca cagacaccct 13620
tttatattct gccttttttcc cttaacattg tatcatgaac atttccatgt ttttaactct 13680
tcctataaat attgtaatgg gacctccatc ttaataagaa tcatgttaat tgggagatca 13740
ctccacacta cgaagaagta gaacagagag acccagtagg aagggaccga gccttctcag 13800
tagcagggga ctgtgattca gagaggctcg gggacctcta ggttggaagt caggagtgag 13860
cactgcatcc·acatcaagag cagcacctct gtgtgttccc ctccaattcc gtgcgagtga 13920
cctcaaatgc acggtcaggc ccgagactgg aactcactcg gactctaagc agcgcctggg 13980
tatcatggcg gctccagtgc agctgttttc ctgctgtaaa ggaaagcccc cgccagctcc 14040
ctatcttgcc tgctgggcat ccctctctgt ccactccagc cacaccctcc acccttctgg 14100
gggcacaac aagagggggtg gagaacccat tgaagggagt ggtggcagga agtgcccaga 14160
ggactctaat gtagtgacaa taaagtgagg aaggacaggc cggccactgc tggtggccga 14220
ctcttcttgt ggctgatgtt tgggcggagg tggacactcc cacacgggga tgttgtcctg 14280
cagacccccag ccacaggtgg gcactgactc caaggcccct tccacagctg agctgccaca 14340
gtgtggggct cagcacaggg tgccctctgc ccacacgatg cccttcccac ccctcctcac 14400
actggggaag gagatggtgc ttgtttgtcg tcaggtgctt cctcttcaca cacatccctt 14460
ttgttaggat caacaaggct cacccatatc agctgaagag tcggtggaga aggaatcctg 14520
tttgctgaaa ggtgatggat gaatagtatc caatggagca acaatgaaat tgttgcttct 14580
gaagactgtt tctcacctgg ggattgggga catgggccca gacagctatg cgctggttca 14640
cagtctgcta tttcattaag aaccgtagga aatgtaaaaa taaggcaaag gaatacaaat 14700
gaattgaaag ggttctagaa tatccttttt aggaaagcaa agggacaggg aaagtgtagt 14760
tggtgaagcc tgatcactca tgttccaaga tgagaggaca aaaattcact tagagaaagt 14820
tgacagaggt agtcagacat cagcatagtc atctccactg aaagtttggc tgaaaggtca 14880
gggtggcgct gaggggacag caatgaaacc cacccgcacc gggtgctcct tcgccgttag 14940
agcttcctgc gactgcagtg gtggcggcgt gtggtttcgc tgcttggtaa cagtgagcac 15000
aaacccaccc tctcttctct tctcagaatt tgaggttaac atcgtggtgc tgcttcaccc 15060
tgaccacctc atcacggaga acttcccgct gaagctctgc aggatatagc ccggaggagg 15120
gaagcataga gaacgggagt ggccatctgg aaatccagct ggttatccaa atcctaaggg 15180
gagctacagc cagcggcata tacttgtttt tgtgattatt ctgtatcaga aatgaaacag 15240
accctcaaat taactttcct tcctcatttc ttgaggcttc tgcttccaac aggcacctct 15300
aatcagacct tttctttgaa attcaacaag atttcttaat gctatttgcc aagaccattt 15360
cacagaaaac attgactgtg gctcttgcct tatctgttcc ttttttaggta cagtaaaaca 15420
attgtgacag cagtttgagc ttgctggaga gtggcatcat ggggacaaaa ggaaacctct 15480
gacttgctaa tggatgtagc cagggactcc ccatagcaaa gggtctgtgg ccagttgaca 15540
tccaggatgg ctgcaagcgc acttgatggt caggaagttt gcagatactc gccaaggcag 15600
agcgcaaagt gctagccact ggaaatgcat gacttccctc cacccctact ctattctgta 15660
gtttttttggt tttgtttctg agacggagtc tcagtctgtc acccaggctg gagtgatctc 15720
agctcactgc aacctccacc tcccaggttc aagcgactct cctgcctcag cctcccgagt 15780
agttgggatt acaggtgact gccaccgtgc ccggctaatg tttgtatttt tagtagagac 15840
ggggcttcac catcttggcc aggctggtct tgaactcctg acctcgtgac ccacccgcct 15900
tggcctccca aagtgctggg attacaggtg tgagccacca cacccagcct ctgtagttct 15960
ttttacaaca tttttcatta taactttaaa ttttttaagc aactggaaaa gtgttccttg 16020
ctctcttggg gggatttggc tggtgccgaa gtgtttctga agtctcaaga actgccataa 16080
aatctcacgc tgccatttcc ctgaacagat acatacatag agagagacag ttttccaaac 16140
tgtgtcacgc aggctgagtg cactggcagg atcacagctc acggcagcct caacctccct 16200
ggctcaagcg atccctcccc tcagcctcct gagtagctga gactacaggt gagtgccacc 16260
acactcagct aatttttcaaa tttttttgtag acagggtctc cctatgttgc ccaggctggt 16320
cttgaactcc tagactcaag tgatcctcct gtcttggcct cccaaagtgc tgagattaca 16380
```

2629

```
ggtgtgagcc actgtgccca gcagtttccc agaatatatt taaatgcaaa gttacatgag 16440
gggaaaacat gtatgtttgc tcctgttgtt actgggtagg ttctgaacag cagaaaccca 16500
tgtgcagggt gggctggtga aggcccctct ccgcaaggtg gtagcaggaa aaggtccttg 16560
acttgatgaa tttggtctgc ctctgagcca ctggaggaag ctgttttgag ccagggtttt 16620
ttggcctaaa gccagcattt cctcagtctc cctttgtggt tcgaaggata tggactattg 16680
caatacattt cttccttcaa atcctgccac tgttttgttg gcccacaact aataggacct 16740
caaaataagc catgctgctt tgcacacaca ctagccttct tttgtacttt tcattctgga 16800
tgggcttggc caaaacaggc tcaggccaaa gacctcccaa gctgtatgta cttccagtat 16860
cctgaaacag tgtttggtga cataatgcca agggtaaaca agcctgattt aggcactgct 16920
ttatccaggg gcttcaccca tgaaattaat aaaacttatc tgagtcactt gaaacttggt 16980
tcccagaaaa cacatttctg gtttataatc tccttttatg ctcacctgac attaattatc 17040
tatccttgat gatgtgttta aactgagtag cagaaaacag aggccacact ttctgggaaa 17100
ttttaaagga agaaaccatt tttaatgaga tgaaaatatt taacgaattt aaaaagctaa 17160
tgacaatttt gagaaaaggt ttgggatgta tattgctatg taatttaata aactgatttt 17220
atggatataa atatgactgc tttccttaga gaataattat tacctgaagc gcatccagac 17280
aacgtggcta cctttatcat ttcattcaac cctgagtggc ccaaacaaag gcctcaggcc 17340
ggccacttcc ttccacttct tggtctgacc tctccatgat ctgttactag gcaaaactca 17400
gatgtttggc taccttgggc tgcaactgtc ccactcttgc ccaggcttgc tggagttggg 17460
gttatccaca gtcagaggtt cagagttgtc aaattctcca attagagcaa gagatgagga 17520
aaggaaaggg agacgaaaga aagaggctgt gcctcagaaa taataacgcc gcatatctac 17580
aactatctga tctttgacaa acctgagaaa aacaagcaat ggggaaagga ttccctattt 17640
aataaatggt gctgggaaaa ctggccaacc atatgtagaa agctgaaact ggatcccttc 17700
cttgcacctt atacaaaaat cagttcaaga tggattaaag acttaaacgt tagacctaaa 17760
accataacct aggcattacc attcaggaca taggcatggg caaggacttc atgtctaaaa 17820
caccaaaacc aatggcaacc aaaggcaaaa ttgacaaatg ggatctaatt aaactaaaga 17880
gcttctgcac agcaaaagaa actaccatca gagtgaacag gcaacctaca aaatgggaga 17940
aaattttcgc aacctactca tctgacaaag ggctaatatc cagaatctac aatgaactca 18000
aacaaattta caagaaaaaa acaaccccat caacaagtgg gtgaaggata tgaacagaca 18060
cttctcaaaa gaagacattt atgcagccaa aaaacacatg aaaaaatgct catcatcact 18120
ggccatcaga gaaatgcaaa tcaaaaccac aatgagatac catctcacac cagttagaat 18180
ggcgatcatt caaaagtcag gaaacaacag gtgctggaga ggatgtggag aaataagaac 18240
acttttacac tgttggtagg actgtacact agttcaacca ttgtggaaga cagtgtggcg 18300
attcctcagg gatctagaac tagaaatacc atttgaccca gccatcccat tactgggtat 18360
atacccaaag gactataaat catgctgcta taaagacaca cgcacgtgta tgtttattgc 18420
ggcattattc acaatagcaa agacttggaa ccaacccaaa tgtccaacaa tgacagattg 18480
gattaagaaa atgtggcaca tatacaccat ggaatactat gcagccataa aaaacgatga 18540
gttcatgtcc tttgtaggga catggatgaa attggaaatc atcattctca gtaaactatc 18600
gcaagaacaa aaaaccaaac accgcatatt ctcactcata ggtgggaact gaacaatgag 18660
aacacatgga cacaggaagg ggaacatcac actctgggga ctgttgtggg gtggggggag 18720
ggggagggat agcattggga gatatacgta atgctagatg acgagttagt gggtgcagcg 18780
caccagcatg gcacatgtat acatatgtaa ctaacctgca cactgtgcac atgtacccta 18840
aaacttaaag tataataata aaaagaaaa attgcttcaa atgaacaaca aaaaaaaga 18900
ggctgtgaac aatgaatcta aaacaatatt ttcttttggg aaatgcccgt tttggcagga 18960
atacattttg gctccgctgt gctgtgaatt cggaggaaaa gtagggaggg ccggaaagcc 19020
cagggcttca tgcagagtag acatcaagaa cccacctgct ctggagtctt ggtgggcaag 19080
gggaacgaac cttccagtcc atttctaccg tcaccataat tcctgtgtct gaatctgaat 19140
caccttcttc aaaaactggg ggctgaggtt gcctccacat gctaacgctg attcagggcg 19200
gcagcagatg ctggtgttct cagttccttc ctgcttccgc ttcctgttca ggaacagggc 19260
cgcattttcc catcctcttc ggctgtaggc gtggtcacgt gaccaggagg gcggggcgcg 19320
cctgcctagc atacgctgga ggacggcgcc ctcaccctgg cgggaggtgg atccccagcg 19380
cggtgcagtt acatcgcaga catgggctcg tctatacgcg gctggacggc cggggtctgg 19440
gctccacagc cggggggcac cacccctggag ctggtgatag gggagggaat cgccgctcgg 19500
gcgcccgggc ctcgcgcgga gcctgcgtgc gcgggagttc acggggcaaa tcctgcccat 19560
cctccgcgct caggcgtggc ttcaaaagcc tcgggccggg tggtgcagcc ccagcataac 19620
ctggcgcccc ggtggctgct ggagtggttg gctcagaatg gaaggaaacg tggggtctg 19680
cgttactctg tggtgataaa aaagagaagc ggcagcttag cgccaagaat aaatgatgac 19740
cgccggaatc cctgccgtta ggcgcaggtc ttggcatgag agctgcaaca gggcggccag 19800
ctgggcgcca gggggcctgg gccgcctgtc cggtgcgggt ccccgaatat cctgggctct 19860
tccgggaagt gccgctgcgg tgaggccaga gcctcccgct acggaggatg cgatgtgatg 19920
tgctgtgcgt tgctctactc aacggagcgc cattcccgtg gtttcgcctt gctgcagttt 19980
cagtagatac cggctattga ttttggtctg agactcgcag ccatgtgaac attagtgtta 20040
```

2630

```
ttctgggtca ggccgtcttc taagtgctgt atgttacctc gttatagcga ccctgtgagg   20100
agggaactgt tagtagcatt agcagtctag gaaaagaaat ccattttgcc aggcgcttgt   20160
ccatccgtct gcgcacctcc ccaccgttcc atcccaggcg agcagtctgt aacgtggtgc   20220
agttttgcct gcgctgcagc ccattctttc acctcgcttc atttgggttt tactttgccg   20280
tgtcattgac aagttttttct atgcatttgt tcccatgtat gcatcacagg ttattagctg   20340
cgtcaccacg tgttgagacg cgcgaagggc tctgttacct cttcatggtt tgaattgtta   20400
cgtcaccctg gcgttcttga acaaagaatt ggacaaaaca cacaaagcaa ggaaagaagg   20460
aagcaacaaa agcagagatt tgttgaaaat gaaagtacac ccacaaggtg ggagcagccc   20520
atgaggctga agggcccggt gacacaattt tctgggattt aaataccctg tagaggtttc   20580
ccattggtta cttggtgtac accttgtgta aatgaagtag tggaccataa tcagtctgat   20640
tggttgcagg agaggaccaa ccagaggctg aagcgaagtt ataaagctat accctatgca   20700
aacatctgat tagttgcaga aagcaaccaa tcagaggctg aagttacaaa gttatactcc   20760
catgcaaatg aagtcttgac ctgtgaacag cctcattggc tgtgggaggg gaccaatcaa   20820
aggtacttag agtttatctg ccacgtggaa aaaggggggt tgcagaggga gtagcctctg   20880
gtccttttgt tacttggatg tggaaagttg gggtttcct tttgatttag ttctaggaag   20940
tcagcgtgaa ttgggcttag gtttactgcc tccagaccct attctcctgc ctcagaatgg   21000
tctcagtttt gatcagctga gtcaaatgaa aatgaagtcc tgagactaac gcaatcattt   21060
gcagctggat ccagtttagg aaggaggcga gtgattaaag gaccagaaag tccgatctaa   21120
ttatattcta ggactgattt cttctatgta gagtaaaaat actagggtat gttccagacc   21180
cattcaaagg actgaaatgt cctttagtga atgacctcac aataccttct gagggggtgtt   21240
tattattccc atctcacagg tgagcaggct gaggcacaga gaaactgacc tgcctaagcc   21300
acgtagctct gttgattctt ggcctgatat tcccccaact tactacaacc aacacagaat   21360
tacagtagac cgccattgcc ctgccatggg taagacctca ttgatgggga cacgatcagt   21420
tcttcgtgaa ccattactgt tgaagccacc attcatcatt tccagctggt tttcaaaaag   21480
gtagaataaa gttttatgcg aagaaatcag ttttcattgt gagagctacc caagctaact   21540
cattttggga ctccgaataa gagtagatat taaaaacaca aagcagaaca actgcccggg   21600
aaaatgctct atgaaggtaa ggtcttcttt cgaatataaa cagttctgca acctaaaggc   21660
tgtcaaaact agccactttg gtagggagaa aaaaaaatca tacatgtgag tctaagaggt   21720
ggaggtgaga ataagcctcc tgggtcagca tcttctccac tatggccact gaaaattatt   21780
catatttgag actatcttaa gtggctacag tggtcagaga atatgacatt actaagaaac   21840
agaagggcac ctaatttgta gaatcaaagc ggatccagct atactcacac aaaatgcagt   21900
caaattatta gagtgtatca ctcaaaagat gcagaaaggc agactgagga attaaaactc   21960
agcaaggatc tcctgtgctt tactgtgctt ttctatgaat gtcactggta agatggaatc   22020
ccttggatag accccgctcc aggccggcag gattctgact ttgtagggct tttcatgtcc   22080
aaccccagcc agtctcttta cagtcttgtg tataacatac aaaagacata tgctgtggag   22140
gttttaagta cttagaaaag tatgaaaaca gaatttgtgc ctatgtctgt atattgtcgc   22200
attctgggga gtgccagctt gatcaggact aagggtcagg ataataccaa aagtttatgg   22260
tttactgtca tctgcatcaa ctgtcatttc cccaaagat gtttctggtt ccctttacaa   22320
acgtccagct gtggtaggag gctgagcatg aagacttagg gacaaagcaa ctcaaacgaa   22380
aagcattatg agaggtaggg tttggtcagc aaaggcccca taaagcaggg tgtggtcact   22440
tcctttctca gaggtcactg tcccccacct gggtcaagga ctagaccttc aagaactaga   22500
ccacaacctc tgggtcttaa gtgaaaggaa ggagaccagc ttttctgtct acagatgtat   22560
agcctctgat ggggccacct ggggaggctg ggccaggagc ccagatgtac tgccgcatga   22620
tacaccaaaa aaggatgcac ccaggcttag ctgcagaaag gtgagagaaa ggagcaaaaa   22680
actaaaatct taaatattca tgtttgtttt aaaacaattt tcgacaccaa tatgtattaa   22740
gaaaacacaa gttcaaagtt gaattcaaaa tcccctacat ggctgggcgc agtggctcat   22800
gcctgtaatc tcagcacttt gggaggccga ggcaggcgga tcaattgagt ccaagagttt   22860
gagaccagcc tggccaacat ggcgaaaccc tgtctctaac ttaaaaaaag atagaaaaat   22920
tagctgggca tggtagtaca cacttgtaat tccaggtact tgggaggctg aggcatgaga   22980
attgcttgaa cccaggaggc agaggttgca gtgagctgag atcacgccac agcactccag   23040
cttgggtgac agagtgagac tctgtctcaa aacaaacaaa aaagcaaaat cccatacata   23100
aaaaagatat gcttaagaag tgagtgtact tttaccacga ttttcctta tatctggtag   23160
caaatacatg tttttaatc catggaaact gcaaaaatca gttacatgca tagcaacaaa   23220
ggaaatcaca attggctggg tgcggtggct cacgcctgta atcccagcac tttcggaggc   23280
cgaggcgggc agatcacgag gtcaggagat cgagaccatc ctggctaaca cggtgaaact   23340
ccgtctctac taaaaataca aaaaattagc cgggcgtggt ggtgggcgcc tgtagtccca   23400
gctactcagg aggctaagac aggagaatgg cgtgaacccg ggaggcggag cttgcaggga   23460
g                                                                   23461


<210> 5698
```

2631

<210> 455
<211> 455
<212> DNA
<213> Homo sapiens

<400> 5698
```
acccaggctg gtctcaaact cctaggctca agcaacctgt ccaccttggc ctctgaaagt      60
gctgggactg caggcatgag ccaccacgcc cagcctgaga cgtgttgttc tgtgtggatt     120
gtggattcag tctttctgtt ccgcttgata ctatttcatc ccctcaattt cctcttccac     180
tcgagcccct gtaacagatt gagaccatcc agttctatgg tgacaggaag aaactgctct     240
ccaatagcga atgcagttac tatccgtaat ctattactca gtaattatct tcagataaat     300
gcacagatga tctgttgtga agtctctcga tgatgtgtga accaagggaa tggaggcgcc     360
gatgcctcct ggtgtgagca ggaaccacag ggacagggca gtccttctgg aaagtggcat     420
gctgctgcct cgtgggtggc accaataacc tccag                                455
```

<210> 5699
<211> 455
<212> DNA
<213> Homo sapiens

<400> 5699
```
acccaggctg gtctcaaact cctaggctca agcaacctgt ccaccttggc ctctgaaagt      60
gctgggactg caggcatgag ccaccacgcc cagcctgaga cgtgttgttc tgtgtggatt     120
gtggattcag tctttctgtt ccgcttgata ctatttcatc ccctcaattt cctcttccac     180
tcgagcccct gtaacagatt gagaccatcc agttctatgg tgacaggaag aaactgctct     240
ccaatagcga atgcagttac tatccgtaat ctattactca gtaattatct tcagataaat     300
gcacagatga tctgttgtga agtctctcga tgatgtgtga accaagggaa tggaggcgcc     360
gatgcctcct ggtgtgagca ggaaccacag ggacagggca gtccttctgg aaagtggcat     420
gctgctgcct cgtgggtggc accaataacc tccag                                455
```

<210> 5700
<211> 2580
<212> DNA
<213> Homo sapiens

<400> 5700
```
cgatccgatc cgatcccatt ccatccgttc ctcgtctcct cccgtctgac ccgttgcgcg      60
gccgtgtgtt cgccacacca ggcatccaaa gctgaggtcg ctcctacggc gctgggcctc     120
gctgttcgct ttagagatgt ttggcctctt ccctcccaaa cagcccatct tcaaaaccat     180
ggactcttgg actggcacct ggccacctgt ccctctacca agactccact tccgtctacc     240
cacttcttcc tcagattctt ggtacccct gggttggaga ctgctcattt tccttccaaa      300
ttaatcccag accccctaaa atattgacaa ccttgacaac cccccaaccg aggagccaga     360
ctttgttttg gactaacttc catagcccta tcatggaggc agtgtacctg gtagtgaatg     420
ggttgggcct ggtgctggac gtgctgacct tggtgttgga cctcaacttc ctgctggtgt     480
cctccctcct ggcttccctg gcctggctcc tggccttcgt ctacaacctg ccgcacacgg     540
tactgactag tcttctgcac ttgggccgcg gagtcttgct ttcattgctg gccttgatcg     600
aagccgtggt ccggttcaca tgtgggggct tgcaggcctt gtgtactctg ctgtatagct     660
gctgctctgg cctagagagc ctaaagctcc tggggcacct gcctctcatg gggcacttcg     720
gagcagggag atactgcacc ggggcgtcct caatgtgctc tccagtgtcc atgctttct      780
gccgccaggc ctgtgacatc tgtgccattt ccatgagcct gttggcttat gtgatcaaca     840
gcctggtcta catctgcctc atcggcactc agaacctctt ttccctggtg ctgccctgtg     900
gatgcagtga ccgggcctct gtggaggatg acagacgtag tggctgcctt cctagcccac     960
atttccagca gtgctgtggc catggccatc ctcctttgga caccctgcca actagccctg    1020
gagctgctgg cctcagctgc ccgcctcctg gccagctttg tgcttgtcaa tctcactggc    1080
ttggtgttgc tagcttgtgt gctggcagtg acggtgactg tgttgcatcc ggacttcacc    1140
ctgaggctgg ctacccaggc actcagccag ctccatgccc ggccatccta ccaccgtctt    1200
cgagaggatg tcatgcggct ctctcgccta gcactgggct cagaggcctg cgcgcgagtc    1260
tggagccgca gtctgcagct ggcgagttgg ccaaaccggg gaggggcacc tggagctccc    1320
cagggtgacc ctatgagggt attctcagtt aggacccgga gacaggacac tcttcctgaa    1380
gcggggcgca gatcagaggc agaagaggag gaggccagga ccatcagagt gacacctgtc    1440
```

```
aggggccgag agaggctcaa tgaggaggag cctccaggtg ggcaagaccc ttggaaattg    1500
ctgaaggagc aagaggagcg gaagaagtgt gtcatctgcc aggaccagag caagacagtg    1560
ttgctcctgc cctgccggca tctgtgcctg tgccaggcct gcactgaaat cctgatgcgc    1620
cacccgtct accaccgcaa ttgcccgctc tgccgccggg gcatcctgca gaccctcaat    1680
gtctacctct gaagcctcct tccctgcctg cccaccccctc catgctccac gcaggcactc    1740
acgctaggac agcattaaca cctcatctcc gggtcctggt ctgaatcccc tcctacccct    1800
gtggccatcc tgccatacat ccaggacatt gagttggaag actatgatct gggtggggggc    1860
aggataacat ggcttctctt tacccagtgg gtcccttcaa tgctgagggt ggtgagtatg    1920
tcactatgca agggccctga gactatttgc tgtgggctct cctccagcct gcccagggcc    1980
cacccagatg cctctggggt tactcctgtc tgcttctggt ttttctgttg gagatctata    2040
ggtccttttc ctgcctcctt cacatttcct ccccagcttt tgcggccaca acacatcagt    2100
gtcatttggg tgttttggca actcaggggc cttcggatga tcttaaacct ttgtgttcag    2160
ccagagcccc tgtgccctgg taggcgttgg ggttagtatc tctcgggtgc cctcagagcc    2220
acctctgcct gtgatcgtct gatgaggctc cctcccaacc tgatccaaaa gccagtctca    2280
ggagtttacc cctgggatgg gggatgcatc tgcacctgac tttgggggcca cgtgccctgt    2340
ggcaccccag ctcactggga gtctcaggag ggataaccgg atttctgctc tttcccctgt    2400
cactcccaca tcacacagaa aaatggcatt cctctctgtc tctccctggc atggagaggg    2460
cagactgtgc acatttcact agggtccaaa tacagaaggg cccagggccc aggggcttgc    2520
agcttcgtga ggggtctctg gcccagtttc caatgaataa agttctcttg acagctctga    2580
```


<210> 5701
<211> 2791
<212> DNA
<213> Homo sapiens

<400> 5701
```
acacaagatg gcggcgccca gcggagtagg ggctgcgctt ggggtttgct gaagctggct     60
gcctctccca ctcccctttt gggtgcaaag cgccgctagc gggaagacgg gggccgggcg    120
gggacagggg cacctgcgta gctggactga gagcctgcgc ccagcttaca tcgaccccac    180
ccggccccgg cccgacccga cgcgacccga tccgatccga tcccattcca tccgttcctc    240
gtctcctccc gtctgacccg ttgcccggcc gtggttcgcc acaccaggca tccaaagctg    300
aggtcgctcc tacggcctgg gctcgccttc gctttagaga tgtttggcct cttccctccc    360
aaacagccca tcttcaaaac ctggactctt ggactggcac ctggccacct ttccctctac    420
caagactcca cttccgtctt acccacttct tcctcagatt cttggtaccc cctgggttgg    480
agactgctca ttttccttcc aaattaatcc cagacccccct aaaatattga caatcttgac    540
aagcccacaa tcgatgagcc agactttgtt tggactaact tccatagacc ctatcatgga    600
ggcagatgta cctggtagtg aatgggttgg gcctggctgc tggacgtgct gaccttggtg    660
ttggacctca acttcctgct ggtgtcctgc cctcctggct tccctggcct ggctcctggc    720
cttcgtctac aacctgccgc acacggtact gactagtctt ctgcacttgg gccgcggagt    780
cttgcttaca ttgctggcct tgatcgaagc cgtggtccgg ttcacatgtg ggggcttgca    840
ggccttgtgt actctgctgt atagctgctg ctctggccta gagagcgcta aagctcctgg    900
ggcacctgga ctctcatggg gcactgcgga cccggtagat actgtaccgg ggcgtcctca    960
atgtggtctc cagtggccat gctatgctgc accaggtctg tgacatctgt gccattgcca   1020
tgatcctggt ggcttatgtg atcaacagcc tggtcaagat ctgcgtcatc ggcagtcata   1080
agctctttac tcctggtgct ggtcctgtgg gatgcagtga ccgggcctct gtggaggatg   1140
acagacgtag tggctgcctt cctagcccac atttccagca gtgctgtggc catggccatc   1200
ctcctttgga caccctgcca actagccctg gagctgctgg cctcagctgc ccgcctcctg   1260
gccagctttg tgcttgtcaa tctcactggc ttggtgttgc tagcttgtgt gctggcagtg   1320
acggtgactg tgttgcatcc ggacttcacc ctgaggctgg ctacccaggc actcagccag   1380
ctccatgccc ggccatccta ccaccgtctt cgagaggatg tcatgcggct ctctcgccta   1440
gcactgggct cagaggcctg gcgccgagtc tggagccgca gtctgcagct ggcgagttgg   1500
ccaaaccggg gaggggcacc tggagctccc caggggtgacc ctatgagggt attctcagtt   1560
aggacccgga gacaggacac tcttcctgaa gcggggccgag agaagaggag   1620
gaggccagga ccatcagagt gacacctgtc aggggccgag agaggctcaa tgaggaggag   1680
cctccaggtg gggcaagacc cttggaaatt gctgaaggag caagaggagc ggaagaagtg   1740
tgtcatctgc caggaccaga gcaagacagt gttgctcctg ccctgccggc atctgtgcct   1800
gtgccaggcc tgcactgaaa tcctgatgcg ccacccgtc taccaccgca attgcccgct   1860
ctgccgccgg ggcatcctgc agaccctcaa tgtctacctc tgaagcctcc ttccctgcct   1920
gcccacccct ccatgctcca cgcaggcact cacgctagga cagcattaac acctcatctc   1980
cgggtcctgg tctgaatccc ctcctacccc tgtggccatc ctgccataca tccaggacat   2040
```
```

2633

```
tgagttggaa gactatgatc tgggtggggg caggataaca tggcttctct ttacccagtg     2100
ggtcccttca atgctgaggg tggtgagtat gtcactatgc aagggccctg agactatttg     2160
ctgtgggctc tcctccagcc tgcccagggc ccacccagat gcctctgggg ttactcctgt     2220
ctgcttctgg ttttttctgtt ggagatctat aggtcctttt cctgcctcct tcacatttcc    2280
tccccagctt ttgcggccac aacacatcag tgtcatttgg gtgttttggc aactcagggg     2340
ccttcggatg atcttaaacc tttgtgttca gccagagccc ctgtgccctg gtaggcgttg     2400
gggttagtat ctctcgggtg ccctcagagc cacctctgcc tgtgatcgtc tgatgaggct     2460
ccctcccaac ctgatccaaa agccagtctc aggagtttac ccctgggatg ggggatgcat     2520
ctgcacctga ctttggggcc acgtgccctg tggcacccca gctcactggg agtctcagga     2580
gggataaccg gatttctgct cttteeeeetg tcactccac atcacacaga aaaatggcat     2640
tcctctctgt ctctccctgg catggagagg gcagactgtg cacatttcac tagggtccaa     2700
atacagaagg gcccagggcc caggggcttg cagcttcgtg aggggtctct ggcccagttt     2760
ccaatgaata aagttctctt gacagctctg a                                    2791


<210> 5702
<211> 947
<212> DNA
<213> Homo sapiens

<400> 5702
agtgattgtc tgcctggccg ctgagtagct aggattactg gcacccgcca caaggcccag       60
ctaatttttg tatttttagt agagacaggg tttgattatg ttggacaggc tggtctcaaa      120
ctcctgactt caagtgatcc acccgcctcg gcctcccaac gtgatgggac tatagacatg      180
agccatcatg cttggccttc ttgattcttg aatacggggt tttgaggtga aagcatttca      240
tgaaaactta agttcataca caagagcatc atgaatattc taaaagaggt atctgtgctt      300
tttttgtgac cacaaaatat tacttcttat gaaatgttta cactaggtga ggaaaagttc      360
attaattacc tttaaaccgt tccttatttt ttttaagatt ttaaattgta ttttggcttt      420
tgcctccagt atcctttctg gttgctctgg tttgaattaa gttcctatta tgctgcagca      480
catatcaacc ttccctaagt aaccatttcc tggaatgtga agcatcggtg ccattagcag      540
accatatgca gaaatgtcgt gtacttgcat ttcttttttg tgcactctat aaggctggtt      600
gtgactcaga tcagcttaac tttttatatt atgttatttc actaactgct acagtcaaaa      660
tgatcaaatc tttgtacaat agaaaattat ttaaatttta tttttctact gacatttcta      720
attctagtgt aaatgtttat caataaaaaa ttactttcaa ttctgagttg gaattatatt      780
tctttttggt ggctaatgag tttaatcttt tgtaataaaa ttgacttcag ttttcatttt      840
ttaaataact taatatctag catgtgtaac tttttttatg ttctacttct tactaattta      900
tgataaaatt cttgttcaaa gttgtgatta aaccgtactt aacatgt                    947


<210> 5703
<211> 3606
<212> DNA
<213> Homo sapiens

<400> 5703
ctttggtata ctaatgaccc ttgagaaact atagaagtgc atctgaaact agagttagtg       60
gttattgatt ttttagctta atgtgtttac ctagtggtaa ctcttcagcc cacttttaca      120
gtattgggta tcaactccca gaaagtgcct aaagtttaat gttcagatat gtacccactc      180
tcccctttac atttttattc aaaagaattt atatctttaa agagatttaa atatcaagag      240
ttttttttaaa acttaatttt agctatttaa attttattc tactgcctaa ctttctttttt     300
cattaaaagg cctgaaaact gtgactcttt gagagggaaa gaatcgcaga aattaagtat      360
ttaatgtgat cctttccacc taaactgttt tgtatggaat acaatcagtg tggtggtagt      420
ggtggtggtt atctgcaaaa tagtttctgg tgattaaatc tgactttttt ttttttttc      480
ttttaaatga gacgtagcct cactgtgttg cccaggctgg agtgcagtgg tgcaatctca      540
gctcactcca acctctgcca cccgggttca agcgattctc ctgcctcagt ttcctgagta      600
gctgggatta caggcacctg ccaccgtgcc cggctaattt ttgtattttt agtagagata      660
ggtttcacca tcttgcccag gctggtcttg aactcctgac cttgtgatcc acccgcctcg      720
gcctcccaaa gtgctgggat tacaggcgtg agccaccgcg cctggccata aatctgacat      780
ctttaaagga aagttttcat tgtgagatta aggcttaaca gcccatgagg tcatatacac      840
atgaacgtat ctattccatt taaagcaata cacactctgg cttctgatta aaaatagcca      900
ggaggagagt ctctgaatct actgtgattc tggagtctgc ccaatttgga aaaaaaaaa      960
```

```
aaagaaaaaa gtcaggagga ccaatttgcc agggaaactc atagaaaaga attacaaaga   1020
gatcacaaaa actggacata ttcttttgac taattagacc acttatggct gggcgcagtg   1080
gctcacacct ataatcccag cactttggga ggtcgatgtg ggaggattgc ttgagcccaa   1140
gagttcaaga ctggcctggg caacatagtg agaccttgtc tctactacaa aataaaaaaa   1200
aattagctgg gcgtggcctc agctacccaa gaggctaaag tgggaggatc acttgtgcct   1260
gggaggttca ggctgctgtg agccgagacc acgccactga actccagctt aggccacagg   1320
gcaagaccct gtcttaaaat aatattacta attttggtaa ttaacttatc aaaactatag   1380
tgacatatac acgggcagaa acttataagt agagttgtaa tgcagccaaa tattcttaca   1440
aattccctaa caagaagctc aaatctttct cacaggcaaa ttgtaaaaat tctagttttt   1500
tgtttaaaga gctgtgattt tcaaaagtat cccttcagtt taagaaatct ggggaattgg   1560
taacttttct tatgggaaat gattgccatc atctctactg aaggatgcct cttactgaaa   1620
aatgtctttt gaaggagttc ttgcctaaag cattctttgg atgtaatttc atacactaaa   1680
catatagacc agtagttagt gggcccctcc tcttaaacag taacttttga agtactgata   1740
catgattaaa atgttagata tttttcactg gagctaagac ttaaaattag ggcattttga   1800
aaggtgtatt tgtttctgtt tcttgtttga tatattttgg ttatctactc ttttaaaaaa   1860
ctaaacgtat aaaaggtatc ttcaaattac tgagtgtttc atccatccca gtaggtgaag   1920
tattctccag tgaataaatc tatatatata tatagatttt aaatagcttg agcggtgtag   1980
cttgaaatgt tttcagggaa agactatttg aatcataagg aatagctttg attttctttt   2040
ttatgtctca aatatagaat tatttggggg tggtcactca gatggaagaa tattggcaat   2100
tgtgttgaac attttacctt atatagtttt gagaattttt gccaaaaact gatttcttag   2160
aaatatcctc ccccagctgt gctttggttt tttggttttt ttgttttgag acggagtctt   2220
gctctgtcgc ccaggctgga gtgcagtggc atgatctcgg ctcactgcaa gctctgcctc   2280
ccgggttcac gccattctcc tgcctcagcc tcccgagtag ctgggactac ggacgtccac   2340
caccatgccc agctaatttt ttgtattttt agtagagacg gggtttcacc gtgttagcca   2400
ggatggtctc aatctcctga cccgcctcca cctcccaaag tgctgggatt acaggcatga   2460
gccaccacac ccggcctctg ctttgttttt taaaaaaaaa gaaatgcaag agagggaggg   2520
aggcagcctc ctgaccataa aagctgattt cttgattttt ttttcttttt ttttgaaat   2580
ggagtcttgc tctgtctcca aggctggagt gcagtggcat ggtctcagct cactgcagcc   2640
tccgtttcct gggttcaagt gattgtcctg ccttggccgc tgagtagcta ggattactgg   2700
cacccgccac aaggcccagc taattttttgt attttagta gagacagggt ttgattatgt   2760
tggacaggct ggtctcaaac tcctgacttc aagtgatcca cccgcctcgg cctcccaacg   2820
tgatgggact atagacatga gccatcgtgc ttggccttct tgattcttga atacggggtt   2880
ttgaggtgaa agcatttcat gaaaacttaa gttcatacac aagagcatca tgaatattct   2940
aaaagaggta tctgtgcttt ttttgtgacc acaaaatatt acttcttatg aaatgtttac   3000
actaggtgag gaaaagttca ttaattacct ttaaaccgtt ccttattttt tttaagattt   3060
taaattgtat tttggctttt gcctccagta tcctttctgg ttgctctggt ttgaattaag   3120
ttcctattat gctgcagcac atatcaacct tccctaagta accatttcct ggaatgtgaa   3180
gcatcggtgc cattagcaga ccatatgcag aaatgtcgtg tacttgcatt tcttttttgt   3240
gcactctata aggctggttg tgactcagat cagcttaact ttttatatta tgttatttca   3300
ctaactgcta cagtcaaaat gatcaaatct ttgtacaata gaaaattatt taaattttat   3360
ttttctactg acatttctaa ttctagtgta aatgtttatc aataaaaaat tactttcaat   3420
tctgagttgg aattatattt cttttttggtg gctaatgagt ttaatctttt gtaataaaat   3480
tgacttcagt tttcattttt taaataactt aatatctagc atgtgtaact ttttttatgt   3540
tctacttctt actaatttat gataaaattc ttgttcaaag ttgtgattaa accgtactta   3600
acatgt                                                            3606
```

<210> 5704
<211> 3607
<212> DNA
<213> Homo sapiens

<400> 5704

```
ctttggtata ctaatgaccc ttgagaaact atagaagtgc atctgaaact agagttagtg    60
gttattgatt ttttagctta atgtgtttac ctagtggtaa ctcttcagcc cactttttaca   120
gtattgggta tcaactccca gaaagtgcct aaagtttaat gttcagatat gtacccactc   180
tcccctttac attttttattc aaaagaatta tatctttaaa gagatttaaa tatcaagagt   240
ttttttaaaa cttaattta gctatttaaa tttttattct actgcctaac tttcttttc    300
attaaaaggc ctgaaaactg tgactctttg agagggaaag aatcgcagaa attaagtatt   360
taatgtgatc ctttccacct aaactgtttt gtatggaata caatcagtgt ggtggtagtg   420
gtggtggtta tctgcaaaat agttctggt gattaaatct gacttttttt ttttttttc    480
```

```
ttttaaatga gacggagcct cactgtgttg cccaggctgg agtgcagtgg tgcaatctca    540
gctcactcca acctctgcca cccgggttca agcgattctc ctgcctcagt ttcctgagta    600
gctgggatta caggcacctg ccaccgtgcc cggctaattt ttgtattttt agtagagata    660
ggtttcacca tcttgcccag gctggtcttg aactcctgac cttgtgatcc acccgcctcg    720
gcctcccaaa gtgctgggat tacaggcgtg agccaccgcg cctggccata aatctgacat    780
ctttaaagga aagttttcat tgtgagatta acggcttaac agcccatgag gtcatataca    840
catgaacgta tctattccat ttaaagcaat acacactctg gcttctgatt aaaaatagcc    900
aggaggagag tctctgaatc tactgtgatt ctggagtctg cccaatttgg aaaaaaaaaa    960
aaaagaaaaa agtcaggagg accaatttgc cagggaaact catagaaaag aattacaaag   1020
agatcacaaa aactggacat attcttttga ctaattagac cacttatggc tgggcgcagt   1080
ggctcacacc tataatccca gcactttggg aggtcgatgt gggaggattg cttgagccca   1140
agagttcaag actggcctgg gcaacatagt gagaccttgt ctctactaca aaataaaaaa   1200
aaattagctg ggcgtggcct cagctaccca agaggctaaa gtgggaggat cacttgtgcc   1260
tgggaggttc aggctgctgt gagccgagac cacgccactg aactccagct taggccacag   1320
ggcaagaccc tgtcttaaaa taatattact aattttggta attaacttat caaaactata   1380
gtgacatata cacgggcaga aacttataag tagagttgta atgcagccaa atattcttac   1440
aaattcccta acaagaagct caaatctttc tcacaggcaa attgtaaaaa ttctagtttt   1500
ttgtttaaag agctgtgatt ttcaaaagta tcccttcagt ttaagaaatc tggggaattg   1560
gtaacttttc ttatgggaaa tgattgccat catctctact gaaggatgcc tcttactgaa   1620
aaatgtcttt tgaaggagtt cttgcctaaa gcattctttg gatgtaattt catacactaa   1680
acatatagac cagtagttag tgggcccctc ctcttaaaca gtaacttttg aagtactgat   1740
acatgattaa aatgttagat attttttcact ggagctaaga cttaaaatta gggcattttg   1800
aaaggtgtat ttgtttctgt ttcttgtttg atatattttg gttatctact cttttaaaaa   1860
actaaacgta taaaaggtat cttcaaatta ctgagtgttt catccatccc agtaggtgaa   1920
gtattctcca gtgaataaat ctatatatat atatagattt taaatagctt gagcggtgta   1980
gcttgaaatg ttttcaggga aagactattt gaatcataag gaatagcttt gattttcttt   2040
tttatgtctc aaatatagaa ttatttgggg gtggtcactc agatggaaga atattggcaa   2100
ttgtgttgaa catttttacct tatatagttt tgagaatttt tgccaaaaac tgatttctta   2160
gaaatatcct ccccagctg tgctttggtt ttttggtttt tttgttttga gacggagtct   2220
tgctctgtcg cccaggctgg agtgcagtgg catgatctcg gctcactgca agctctgcct   2280
cccgggttca cgccattctc ctgcctcagc ctcccgagta gctgggacta cggacgtcca   2340
ccaccatgcc cagctaattt tttgtatttt tagtagagac ggggtttcac cgtgttagcc   2400
aggatggtct caatctcctg acccgcctcc acctcccaaa gtgctgggat tacaggcatg   2460
agccaccaca cccggcctct gctttgtttt ttaaaaaaaa agaaatgcaa gagagggagg   2520
gaggcagcct cctgaccata aaagctgatt tcttgatttt tttttctttt tttttttgaaa   2580
tggagtcttg ctctgtctcc aaggctggag tgcagtggca tggtctcagc tcactgcagc   2640
ctccgtttcc tgggttcaag tgattgtcct gccttggccg ctgagtagct aggattactg   2700
gcacccgcca caaggcccag ctaattttttg tattttttagt agagacaggg tttgattatg   2760
ttggacaggc tggtctcaaa ctcctgactt caagtgatcc acccgcctcg gcctcccaac   2820
gtgatgggac tatagacatg agccatcatg cttggccttc ttgattcttg aatacggggt   2880
tttgaggtga aagcatttca tgaaaactta agttcataca caagagcatc atgaatattc   2940
taaaagaggt atctgtgctt ttttgtgac cacaaaatat tacttcttat gaaatgttta   3000
cactaggtga ggaaaagttc attaattacc tttaaaccgt tccttatttt ttttaagatt   3060
ttaaattgta tttttggcttt tgcctccagt atcctttctg gttgctctgg tttgaattaa   3120
gttcctatta tgctgcagca catatcaacc ttccctaagt aaccatttcc tggaatgtga   3180
agcatcggtg ccattagcag accatatgca gaaatgtcgt gtacttgcat ttcttttttg   3240
tgcactctat aaggctggtt gtgactcaga tcagcttaac tttttatatt atgttatttc   3300
actaactgct acagtcaaaa tgatcaaatc tttgtacaat agaaaattat ttaaatttta   3360
tttttctact gacatttcta attctagtgt aaatgtttat caataaaaaa ttactttcaa   3420
ttctgagttg gaattatatt tcttttttggt ggctaatgag tttaatcttt tgtaataaaa   3480
ttgacttcag ttttcatttt ttaaataact taatatctag catgtgtaac tttttttatg   3540
ttctacttct tactaattta tgataaaatt cttgttcaaa gttgtgatta aaccgtactt   3600
aacatgt                                                              3607
```

<210> 5705
<211> 125
<212> DNA
<213> Homo sapiens

<400> 5705

2636

```
ctgtaatccc agctacttgg gaggctgagg caggagaatc gcttgaaccc aggaagcaga    60
ggttgcagtg agccgagatc acgctattgc gctccagcct gggcaacaag agcgaaactc   120
catct                                                               125


<210> 5706
<211> 4971
<212> DNA
<213> Homo sapiens

<400> 5706
agagatgtgg tatggtgtat tcctgtgggc actggtgtct tctctcttct ttcatgtccc    60
tgctggatta ctggccctct tcaccctcag acatcacaaa tatggtaggt tcatgtctgt   120
aagcatcctg ttgatgggca tcgtgggacc aattactgct ggaatcttga caagtatgtt   180
agacattaaa ataccagtca aaaatgttta atatgactag tcaatttcag gacctattct   240
agaaaacata tctgagtagg atgaaggaaa gagtgccttt taactgcaag tccagacagg   300
gtctccctat gtcaccaagg ccggagtgca gtggttgcaa tattggctca ctgcagcctc   360
cacctcttgg gctcaagtaa tcctcctcca tcagcctccc aagaagcttg gactacaggg   420
gtgtgccacc atggccccgc taattttttt tgtatttttt gtagagacag ggtttcgtca   480
tgttgcccgg gtctcgaact cctgagctca gcaatctgc ccaccttggc ctcccaaaat    540
gctgggatta caggcgtgag ccactgtgcc tggcccagtt tttttaatgt attgattttt   600
ttttttccacc cccaaggtcc tattacttgg ctaacctctt tgacttcttg agtcagattt   660
catctcagtg gcttcaggga agtcatgtta aactttgtga gatatatctc gtgagagagg   720
ccaccagcaa gaggaaaatt tatctttttg gaagctactt ctcctctctg atcagctatc   780
acttgagcat tggccctgca agatggttgg tgaattactt ccactcatgt gggtgtggtt   840
gctgtaaaga tagaagacaa attttgatga caagaattct ttgccaggtg tagtggctca   900
tgactgtaat cccagcactt tgggaggcag aggtgggagg cttgctgaag cctaggaaat   960
tgagactagc ctcagcaaca tagcaagacc ccatctctac aaataaaaat aaaaaattta  1020
gctgagtgtg gtggtgtgta cctgtggttc caactacgtg ggaggctgaa atgggaggat  1080
tgctggagcc aggaggtcca ggctgggctg cagtgagtcg tgatcacacc acagcactcc  1140
agcctgggcc acagagcaag acccggggga aaaaaaaaga attcttgctt agaaaagtac  1200
ccgattagtg ctctagttat tttttttcccc ttaggacttt ctgaataaga attggagtaa  1260
catgatgtta tgaattattt tcaggcttgt ttttggggcg tttggtttgt tatggctttt  1320
gcttatggga taagaaacag ttacagaaat gagaacaata agtttaaatc atttcaaagc  1380
tcatgcataa atataaatgt gtattttata taaactgaaa attctaagta attaaaatgt  1440
aaaatcctcc attttctcat ccctaaataa tagccacagt ttacatcttg gtgtgtattc  1500
cttttttttag gtatagatgt aaacataaat acatttttat aatatagaaa tgtaatattc  1560
ctactgattt gtaactttt ttcactgtga attgaaacct tagcatcaag cagaaatcgc   1620
cctctatgtc tttgacttga ggtgttttt tttttttttt gagagaaagt ggcctagttt  1680
ctctgtgttc taactgtatc acctactgct gctttggaga ccctctgccc caggatgact  1740
ggctgctagg gcctgtctta gtttgttcct cagtaaaata ggggtaatac tacccaacct  1800
catacccttg catgattgag ctaatgtgta tatgatgtaa tacctgacac atagtaattg  1860
tcgaataaat gttgtattca tttctgtctt taaggctcta tgaatagtct gttcccttc   1920
catttgctgc tctcttggat atactttttc ctttcttcgc ttcattatcc caatcccact  1980
ttagggccca gttcaagttc cttaagcttc tttctatcca acccagtctt tcttgtgtac  2040
ctaaattttg gaggggccca atgaaacatg tctttcagat gttagtaaca aaatgtacgc  2100
attgccagtg gagctgggca tttaaatca ctaaatgttc aaggcagcca acctttggtt   2160
aatattgttc tttcttcttg ttaaaatatg ttaatatacc ttcacatcac atttgtgaaa  2220
tgtgccaggc atggtggctt atgcctgtaa tcccagcact tgggaagcc agcttgggag   2280
gattgcttaa gtccaagagt tcaaaaccag ccttggcaac atagtgagac cctgtctcta  2340
caaaaaataa ataaataaaa tagccaggtg tggtggcgtg tgcctgtagt cccagctgct  2400
cgggaggatc acttgagccc aggaggttga ggctgcaggg agccatgatc atgccaccgc  2460
attccagcct aggtgaaaga gtgagacact gtctcaaaaa aaaaaaaaat tgtaaacgtg  2520
attgagacac tgtatgttat tttgcattat tgcaaatctg tttctgtctt gtgtccccag  2580
ctagattcca agtaccttga gaatagcgat cataccttat aaaacacaga agtgttctgc  2640
agatgaaaat tggagtgaat gaacacacta tgacaaagga gaattttgtt ggagcatttt  2700
gtggggaggg tcatctggga aatctggatc tattcttttc tttttaaaat ttttattatt  2760
tatttatttta ttttattg agaacagggt cttgttctgt cacccaggct gggagtgcagt  2820
ggcatagtca cagctcactg cagccttgac ctccctagct caagtgatcc ccctacctca  2880
gccacccaag caactaggat tacaggcacg ttcactacac ccagctaatt tttgtatttt  2940
ttgtaaagac aaggtttggt catgttaccc aggatggtct caaactcctg ggctcaagcg  3000
```

```
atcctcctgc ctcggccttc caaaatgatg ggattatagg cttgagccac tgtacttggc   3060
cggttctttt ttttttttgag acaggatctt gttctgttgc ccaggcttga gtgcagtgtc   3120
gcgatgtgag ctcacaacaa cctccaccTc ctgggttcaa gcagctctcc tgcctcagcc   3180
tcccgagtag tagggattac aggcacgtgc caccacactt ggctgatttt ttgtattttt   3240
agtagagatg gggtttcacc atgttgccca ggctggtctc aaactcctga gctcagatga   3300
tccacccatc tcggcctccc aaagtgctgg gattacaggc gtgagccacc gtgcccggcc   3360
ggatctattc ttttcaaacg aatgaaatgt taactttctt ggtacacttc cttggtataa   3420
tgctgaactc gtatagtaac tcaaatgggt atctgcatag atacaggggt tttcgttttg   3480
tttttccaat ttgcaggaaa ttatagtgac tagcgtaata aaaacaatca atgacttggg   3540
agacaaagga atccctgagt atctctcctc tcatgccctg tgaatgaata acaactttat   3600
ggcttagagt cctcctgtct tcccttttca cccctctagt ccctcctccg tccatttctt   3660
gaagggaact atgagtgtga tagaaggtgg agtggggatt ccctgtggcc tgaaacattt   3720
cttgcttagt ctaactcaaa agatcctttt tcatttgtta ccaaaaatgt attaggtccc   3780
tgttgaaggc taggcatggg gtaactggta ggggaataca gatattttg agttcataat   3840
ctggtcatgt gggaattgct atctttgtga ttttgattat ttcttccaga ttattttatt   3900
caataaatct aggagactct gggttttaag gagtcagcat ctaaaagtga tcttgcaagc   3960
catgcaatga atactcaaag tgtagagtag tccacagaaa gaatagggaa aacctaacat   4020
ttctgtaaga tttaaatttc agtataaaat ctggaacatt ctactcgcag tagtatttta   4080
aatgttgtat tttcgtgagt ttgttaacct tcgttttttg tttttgttta acattcttgc   4140
attttaaatc aggtgcagct attgctggag tttaccgagc agcagggaag gaaatgatac   4200
catttgaagc cctcacactg ggcactggac agacattttg cgtcttggtg gtctcctttt   4260
tacggatttt agctactcta tagcatacat ccttatgctg agatgttgaa cttaaacttt   4320
atggaatcct ccaaaagaat acattatgga gtgtagtgtt ttcttagttc ttcaaaggga   4380
agcaacttgg atgaacagga acatgaagga caacacatct cagccttttc ttcattttga   4440
agctcctaga attgaagact tatgtggact cctattgttc tcaaccaaaa caagtctttt   4500
ggctttcttt tttgtagata tttaatttaa gcagttttca tgtgtacctt tacgcaagcc   4560
aagtcaacag tgtctctggg gtggcatcct ttgcactgaa atttacagta ttctgtgaga   4620
tgtcgcatat tttgaagaaa ccgtggaaga tactggttta tttcaaatga gcagagtatg   4680
ttgtattaaa atcttatcta atcttgatta aaatttggca aactcttttc tttgctacat   4740
cttagtgaca ataaatgcca aataggtttt ggttgagtat agttttgaaa acaaatttgg   4800
tgaaataaag caggaaaaaa aatttaagta taactcaagt agtggctttg gttccactgt   4860
ttataaataa aaagtagata acaatgaata atgtgacatt ttctggacaa ctgtcttgac   4920
ttctgattaa gatattttaa gagatgtgaa tttgttattt tgtatgtttt a          4971
```

<210> 5707
<211> 4967
<212> DNA
<213> Homo sapiens

<400> 5707
```
agagatgtgg tatggtgtat tcctgtgggc actggtgtct tctctcttct ttcatgtccc    60
tgctggatta ctggccctct tcaccctcag acatcacaaa tatggtaggt tcatgtctgt   120
aagcatcctg ttgatgggca tcgtgggacc aattactgct ggaatcttga caagtatgtt   180
agacattaaa ataccagtca aaaatgttta atatgactag tcaatttcag gacctattct   240
agaaaacata tctgagtagg atgaaggaaa gagtgccttt taactgcaag tccagacagg   300
gtctccctat gtcaccaagg ccggagtgca gtggttgcaa tattggctca ctgcagcctc   360
cacctcttgg gctcaagtaa tcctcctcca tcagcctccc aagaagcttg gactacaggg   420
gtgtgccacc atgccccgct aatttttttt gtattttttg tagagacagg gtttcgtcat   480
gttgcccggg tctcgaactc ctgagctcaa gcaatctgcc caccttggcc tcccaaaatg   540
ctgggattac aggcgtgagc cactgtgcct ggcccagttt ttttaatgta ttgattttt   600
ttttccaccc ccaaggtcct attacttggc taacctcttt gacttcttga gtcagatttc   660
atctcagtgg cttcagggaa gtcatgttaa actttgtgag atatatctcg tgagagaggc   720
caccagcaag aggaaaattt atcttttgg aagctacttc tcctctctga tcagctatca   780
cttgagcatt ggccctgcaa gatggttggt gaattacttc cactcatgtg ggtgtggttg   840
ctgtaaagat agaagacaaa ttttgatgac aagaattctt tgccaggtgt agtggctcat   900
gactgtaatc ccagcacttt gggaggcaga ggtgggaggc ttgctgaagc ctaggaaatt   960
gagactagcc tcagcaacat agcaagaccc catctctaca aataaaaata aaaaatttag  1020
ctgagtgtgg tggtgtgtac ctgtggttcc aactacgtgg gaggctgaaa tgggaggatt  1080
gctggagcca ggaggtccag gctgggctgc agtgagtcgt gatcacacca cagcactcca  1140
gcctgggcca cagagcaaga cccggggaa aaaaaaagaa ttcttgctta gaaaagtacc  1200
```

2638
```

```
cgattagtgc tctagttatt tttttcccct taggactttc tgaataagaa ttggagtaac   1260
atgatgttat gaattatttt caggcttgtt tttggggcgt ttggtttgtt atggcttttg   1320
cttatgggat aagaaacagt tacagaaatg agaacaataa gtttaaatca tttcaaagct   1380
catgcataaa tataaatgtg tattttatat aaactgaaaa ttctaagtaa ttaaaatgta   1440
aaatcctcca ttttctcatc cctaaataat agccacagtt tacatcttgg tgtgtatttc   1500
ttttttttagg tatagatgta aacataaata cattttata atatagaaat gtaatattcc   1560
tactgatttg taactttttt tcactgtgaa ttgaaacctt agcatcaagc agaaatcgcc   1620
ctctatgtct ttgacttgag gtgttttttt tttttttttt tgagagaaag tggcctagtt   1680
tctctgtgtt ctaactgtat cacctactgc tgctttggag accctctgcc ccaggatgac   1740
tggctgctag ggcctgtctt agtttgttcc tcagtaaaat aggggtaata ctacccaacc   1800
tcatacccctt gcatgattga gctaatgtgt atatgatgta atacctgaca catagtaatt   1860
gtcgaataaa tgttgtattc atttctgtct ttaaggctct atgaatagtc tgttcccttt   1920
ccatttgctg ctctcttgga tatacttttt cctttcttcg cttcattatc ccaatcccac   1980
tttagggccc agttcaagtt ccttaagctt ctttctatcc aacccagtct ttcttgtgta   2040
cctaaatttt ggaggggccc aatgaaacat gtctttcaga tgttagtaac aaaatgtacg   2100
cattgccagt ggagctgggc attttaaatc actaaatgtt caaggcagcc aacctttggt   2160
taatattgtt ctttcttctt gttaaaatat gttaatatac cttcacatca catttgtgaa   2220
atgtgccagg catggtggct tatgcctgta atcccagcac tttgggaagc cagcttggga   2280
ggattgctta agtccaagag ttcaaaacca gccttggcaa catagtgaga ccctgtctct   2340
acaaaaaata aataaataaa atagccaggt gtggtggcgt gtgcctgtag tcccagctgc   2400
tcgggaggat cacttgagcc caggaggttg aggctgcagg gagccatgat catgccaccg   2460
cattccagcc taggtgaaag agtgagacac tgtctcaaaa aaaaaaaaaa ttgtaaacgt   2520
gattgagaca ctgtatgtta ttttgcatta ttgcaaatct gtttctgtct tgtgtcccca   2580
gctagattcc aagtaccttg agaatagcga tcataccttta taaaacacag aagtgttctg   2640
cagatgaaaa ttggagtgaa tgaacacact atgacaaagg agaattttgt tggagcattt   2700
tgtggggagg gtcatctggg aaatctggat ctattctttt cttttttaaaa ttttattat    2760
ttatttatttt attttatttt gagaacaggg tcttgttctg tcacccaggc tggagtgcag   2820
tggcatagtc acagctcact gcagccttga cctccctagc tcaagtgatc cccctacctc   2880
agccacccaa gcaactagga ttacaggcac gttcactaca cccagctaat ttttgtattt   2940
tttgtaaaga caaggtttgg tcatgttacc caggatggtc tcaaactcct gggctcaagc   3000
gatcctcctg cctcggcctt ccaaaatgat gggattatag gcttgagcca ctgtacttgg   3060
ccggttcttt ttttttttga gacaggatct tgttctgttg cccaggcttg agtgcagtgt   3120
cgcgatgtga gctcacaaca acctccacct cctggttca agcagctctc ctgcctcagc   3180
ctcccgagta gtagggatta caggcacgtg ccaccacact tggctgattt tttgtatttt   3240
tagtagagat ggggtttcac catgttgccc aggctggtct caaactcctg agctcagatg   3300
atccacccat ctcggcctcc caaagtgctg ggattacagg cgtgagccac cgtgcccggc   3360
cggatctatt cttttcaaac gaatgaaatg ttaactttct tggtacactt ccttggtata   3420
atgctgaact cgtatagtaa ctcaaatggg tatctgcata gatacagggg ttttcgtttt   3480
gttttttccaa tttgcaggaa attatagtga ctagcgtaat aaaaacaatc aatgacttgg   3540
gagacaaagg aatccctgag tatctctcct ctcatgccct gtgaatgaat aacaacttta   3600
tggcttagag tcctcctgtc ttcccttttc accctctag tccctcctcc gtccatttct    3660
tgaagggaac tatgagtgtg atagaaggtg gagtggggat tccctgtggc ctgaaacatt   3720
tcttgcttag tctaactcaa aagatccttt ttcatttgtt accaaaaatg tattaggtcc   3780
ctgttgaagg ctaggcatgg ggtaactggt aggggaatac agatatttttt gagttcataa   3840
tctggtcatg tgggaattgc tatctttgtg attttgatta tttcttccag attattttat   3900
tcaataaatc taggagactc tgggtttttaa ggagtcagca tctaaaagtg atcttgcaag   3960
ccatgcaatg aatactcaaa gtgtagagta gtccacagaa agaataggga aaacctaaca   4020
tttctgtaag atttaaattt cagtataaaa tctggaacat tctactcgca gtagtatttt   4080
aaatgttgta ttttcgtgag tttgttaacc ttcgtttttt gttttgtttt aacattcttg   4140
cattttaaat caggtgcagc tattgctgga gtttaccgag cagcagggaa ggaaatgata   4200
ccatttgaag ccctcacact gggcactgga cagacatttt gcgtcttggt ggtctccttt   4260
ttacggattt tagctactct atagcataca tccttatgct gagatgttga acttaaactt   4320
tatggaatcc tccaaaagaa tacattatgg agtgtagtgt tttcttagtt cttcaaaggg   4380
aagcaacttg gatgaacagg aacatgaagg acaacacatc tcagcctttt cttcatttttg   4440
aagctcctag aattgaagac ttatgtggac tcctattgtt ctcaaccaaa acaagtcttt   4500
tggctttctt ttttgtagat tttgatttaa gcagttttca tgtgtacctt tacccaagcc   4560
aagtcaacag tgtctctggg gtggcatcct ttgcactgaa atttacagta ttctgtgaga   4620
tgtcgcatat tttgaagaaa ccgtggaaga tactggttta tttcaaatga gcagagtatg   4680
ttgtattaaa atcttatcta atcttgatta aaatttggca aactcttttc tttgctacat   4740
cttagtgaca ataaatgcca aataggtttt ggttgagtat agttttgaaa acaaatttgg   4800
tgaaataaag caggaaaaaa aatttaagta taactcaagt agtggctttg gttccactgt   4860
```

2639

```
tataaataaa aagtagataa caatgaataa tgtgacattt tctggacaac tgtcttgact      4920
tctgattaag atattttaag agatgtgaat ttgttatttt gatgttt                    4967


<210> 5708
<211> 2154
<212> DNA
<213> Homo sapiens

<400> 5708
catgcctatc actgtccccg aaggccttcc agtgggatga aatgtggaga tggaaggcag       60
tgacactgat gatcctgacc ctgtctaggt ccaggctaat gtgtgcgttt gtgtcttggt      120
ttttaacaaa gaagtttaaa aggtaaaaag aaagttaaaa aatttaaagt agaaaacagc      180
ttacagaata aaaatataca gaaaatattt ttgtacagca gtacaatgtg cttgtgtttt      240
aaactgttat tacaaaaggg tcaaaaagct gtaaaaaaat tttttaagtt catgaagtaa      300
ataatttaca gtaagctagg tttaatttat tattgaaaga aaaaagcgta tgaataaatt      360
tagtgtagct taagcatacc gtgtttattt ttatttttca taatgtctgc tcagtaacaa      420
gtgtacagtg tttataaagt ctacagtagt gtacactcat atcctagggc ttcacattca      480
ttcaccactc attcactcac tcacccagag caacttccag gcccacaagc tccattcatg      540
ctaagttccc tagataggtc tatcattttt tatcttttat aacatatttt tactttacct      600
tttctatatt tacatatgtt tagatacaaa aatatttacc attgtgttcc aattgcctgc      660
agtatttagt acagtaacat actgtgtagg tttgtagcct gtagcctagg agcaacaagc      720
tataccatat agcctaggtg tgtagtaggc tatgccatct acatttgtgt taagtacact      780
ctatgatgtt cacatgacaa ggaaatttcc tactgacaat gtatttctac tgttaagtga      840
tacataacta tatgtatatt agtttgtatt gttcagtaat ggagagattg tgttagactc      900
taggggccag ggatcaagta actgtactag ggtccccaac acttaggtgc catggcaata      960
aataaatgaa gagctaacca aatgcctgca ttctggacag ctctgtttaa aaggtatttc     1020
atggagtttt tcatttaatc aatagaaatc caatcactag gccaggcatg gtacctcacg     1080
cctgtaatcc cagcactttg ggaggtggaa gcgggtggat catttgaggt caggagtttg     1140
agaccagcct ggtcaacatg gtaaaacccc acctctacta aaatacaaaa attagccggg     1200
tgtggtagca catgcctgta atcccaggta cttgggagcc tgaggcagga gaatcgcttg     1260
aacccaggag gcggaggtta cggtgagtgg agatcgcacc actgcactcc agcctgggcg     1320
acaagagcga aactctgtct caaaaaaaat aaaaataaaa aagaaaaaa aaaaagaaat      1380
ccaatcaata aaagcagaga atagtttcca ttcagtaagt ggtaaacaac aactaatgca     1440
tttggcactt tctctttcac agcttctatc taaagccaat ctcatgaggc accaactttc     1500
ataccaggca ctatcacttc tctgcttcct atatctccct cctctcccag agacagaatg     1560
tttcagaaag tagatttgct gcctaagatt catgtcattg aagctgcagt agaagagtca     1620
tttaatatat gaaatataag gcaagacttt tcaaaaaaaa ttctctctca gaaaatacaa     1680
gtcactttat attcaaatac ttacaaagta cctcttgctg taggaagttt tgcaatttcc     1740
ttattttgaa tacaaagtac cagctgggga tgacacaata ccctaaaaca acctcagtta     1800
aggctgcttt ggctaatggt aatcagtgaa acaagataaa ttaaacacaa atttagtaat     1860
tatccctgga gatataaact cacacttcca tgtgtaaact gccattgtaa ggccagcttt     1920
ttattttgtt tattcatttt ttacttttt tagagatgga gtctcaccct gttgcccagg      1980
ctgtctcgaa tttgtgggct caagctatcc acccacttgg ccttccaaag tgccaggatt     2040
acaggcatca gtcaccatgc ctggccagta gaccaacgtt ttaaagatca ttttagctgg     2100
gcgcggtggc tcatgcctgt actttgggag tccaaggtgg gcggatagct cgag           2154


<210> 5709
<211> 702
<212> DNA
<213> Homo sapiens

<400> 5709
cttttttttt ttttttttga gacagagttt tgctcttgtc atgcaggctg gagtgcaata       60
gcatgatctc agctcactgc aacctccacc tctcaggttc aagcgattct cctgcctcag      120
cctcctgagt agctgggact acaggtgcct gccaccaggc ctggctaatt tttgtatttt      180
tagtagagat agggtttgac caagttggcc aggctggtct caacctcagg agattcgcgt      240
gcctcagcct cccaaagtgc agagattaca gatatgagcc attgcaccca gccccaggct      300
aggtgtttct gtgtacagaa tgtttttcaag tttgctggtc aggctttata catacataca     360
tacatacata cgtacatata catacataca cttatatgca cacatgtata tatataaaat      420
```

```
atatacatat ataatataca catatatctt taaaatatat aatataaact aagtatgtat    480
caacttataa actatacaca catatatgat ataaactaat atagtaatgt gccacataag    540
gatgttttgg tcaagaacgt accccatatt ccacggcagt cccgttaaga ctatgatgga    600
gctgaaaaat ccctacagcc tagtaacaca gctttcatga tgttgtagca caaagcatta    660
ctcacatgcc tgtggtgatg ctggtgtaaa taaacctact gc                      702


<210> 5710
<211> 11864
<212> DNA
<213> Homo sapiens

<400> 5710
aggacgtgag cctgcacttc gtgctctggg gctgcctgca cgtgtaccag cgcatgatcg     60
acaaggcgga ggacgtgtgc ctgttcgtag cgcagcccgg ggaactggtg gggcagctgg    120
cggtgctcac tggcgaacct ctcatcttca cactgcgagc ccaacgcgac tgcaccttcc    180
tgcggatctc caagtccgac ttctatgagt atgacagccc gaagttggag tgtgggtggc    240
actcggagga ccccaacccg tgggagtggc cagaacccca tccctcaacc tcactcctgg    300
aagagcagaa gggagccccc agatctggcc tcccagcgcc ggtgtaggac ggttttgagg    360
ccttcctctt tcatcccaag tctgttcctg caggatcatg cgcgcacagc ccagtgtggt    420
gctgagtgcg gcgcacacgg tggcagccag gatgtcgccc ttcgtgcgcc agatggactt    480
cgccatcgac tggactgcag tggaggcggg acgcgcgctg tacaggtgca gctcccaccg    540
cgctgctcag gcccggccta ggggtgggga cctgggggtg gtcagacctt gctgacctcc    600
acgcccactc aggcagggcg accgctccga ctgcacttac atcgtgctca atgggcggct    660
gcgtagcgtg atccagcgag gcagtggcaa gaaggagctg gtgggcgagt acggccgcgg    720
cgacctcatc ggcgtggtga gcgcgacccc cacccactga cctctggcct tttccaggcc    780
agtccctcga caacgcacac acatcatccc gggtaatcca gggagtggtg aatgcagctc    840
ccgacctctg aggtcaccca gtccactccc cgcccagacc tcatttcgtt ggaaaagggg    900
attccgcctg tcgtggatcc ctgtcctctc cctctcccca gagctctaat gggtagcgag    960
cgaggcttgc ttccctacac ccccattgca ggggagccct agatgggggca gtacagcccc   1020
ctttccaccc atcttcggcc tcctcattcc ccacccaagc agccccaatc atgcacgcgg   1080
ccccccaggt ggaggcactg acccggcagc cgcgagccac gacggtgcac gcggtgcgcg   1140
acacggagct ggccaagctt cccgagggca ccttgggtca catcaaacgc cggtacccgc   1200
aggtgcggcc tgttgtgggc ggggcagaga ggcggaggcg ggactccggg ggggtggggg   1260
ccgggcctag tgtgtgggcg gggcttacag aggggcgggg tcgagggagg ggccgaagcg   1320
agagagtgag ggcggggggct ctcgggggtg ggacccaggt aacgggcacc caggagcccc   1380
ggcataggag ggagaggtgg gacctggaca gccgcttccc aggtctcact gaaatgccgg   1440
cctccaacgc ccccaggtcg tgacccgcct tatccaccta ctgagccaga aaattctagg   1500
gaatttgcag cagctgcaag gacccttccc aggtgagagc cggccggccc agagcatgct   1560
gggagatgta gtccggcgtc cagagcatgc tgggagggaa gccttctttc ctgagggatg   1620
ctgggaaatg gagttccgcg aagaaatcgt gcccctgagg gtttcaaacc ctaagtagga   1680
ccgaggtgca gagcattctg gggaatggag ttcgtgttcc tgagcatact gggaaacgaa   1740
gtcctcgacc cctggcgtgc tagttaatgg gctcgaaagt aaatcagtgg tgctggggag   1800
ggagtcttag gcggtggact tggcgtagtc tgcccgggag tcagggcttg ctggggaagt   1860
ccacggcctg gacgttgaga gaaagggagt cctagatcag aatatgatgg cagggccgtc   1920
atggtggctc atgcctgtaa tctcagcact ttgggaggct gaggcaggag gatcgcttga   1980
gcccaggaga ttgagtttga aaccagcctg ggcaacatag taggaccccc gtctctacaa   2040
aaatttcaaa cattagctgg gcttggtgac acatgcctgt agtctcagcc actcaggagg   2100
ctgaggcggg aggattgatt gcttgagccc ggaggtcgag gctgcagtga ccgtgatcg    2160
tgccactgta ctccagccgg gacgacagag ctagaacctg tttcagaaaa aataaaacag   2220
caaacaaaca aaactcccca taccatgatg gaaaatagtc tgtggatttt tgtttaggac   2280
tctgggcacc tcgccttctg aagttacagc ttgctgggag atgtagcccc ctgtttcagc   2340
ctgtggcttc agtgagctag aacagaatgg ggcgtgcggt ggggttggag gcctgctgaa   2400
atgagggcct gagtttctac attgtggtgg ccagattctg ggccagccca gcaacctaga   2460
tacccctttt ccctccaggg gctctaccca attggccctg agccctagat cccccaaggc   2520
gggggcaggg cggtagtggc agaaaagaca tcattaagaa attacagagg cctggggcgg   2580
tggctcacgc ctgtaatctc agcactttgt gaggctgagg caggtgaatc acttgaagtc   2640
aggggttcga gaccagcctg gccaacgtgg tgaaactcat ctctactaaa agtacaaaaa   2700
ttagtcgggt gtggtggtgg gtgcctgtaa tcccagctac ttggacggct gaggcaggag   2760
aatcgcttga accggggagg cagaggttgc agtgagccga gcctacgcca ttgcactcca   2820
gcctgggcaa ccagagcaaa actccatctc aaaaaaaaaa aaaagaaaa aaaaaagaa    2880
```

                                    2641

```
aagaaaagga aagaaattac agatagagaa tacaatatct agaagacaaa agagggtcat   2940
gatggcttgt ggctgacaga ggggaggagg aagggaggga gaaagaggct tttctaagga   3000
cagtgagctg agacttgaca actaagatgg ggccagacat gaaagagaaa ccaggggtgc   3060
tgcacaggag gctggtggtt ttgaagcact gaggaggaaa gcgatcaagg ggagaggtgg   3120
tgggggttgg ggggtaagtc acataggggc taggggctgt ggacaggcac ttgagcttat   3180
ttagattgtt attgttagat tggggaggaa ggattccacc agtaaggagg caacaagagg   3240
tctaggcaag atatgggagt tgacagctgg tctaggctgt tactggagaa actgggaagc   3300
aacagctggg tcaaagtagc ttttctttтс ttgtctttgt cttttctttt attttctttt   3360
taagacaggg tctcgctctg tagcccaggc tggagtgcag tggcacgatc tcggctcact   3420
gcaacctctg cctcccgggt tcaagtgatt ctcctgcctc agcctcccaa gtagctggga   3480
ttacaggtgt atgccaccat gcctggctaa ttgttgtgta tttttagtag agcagtgttt   3540
ctccatgttg gctaggctaa aaatagcttt atttctgcct cgttttatgt tcaggtcccc   3600
cattagacag aggaaccaag gccagaatga ggcagggca ctggccaatt gatctcccaa   3660
gcacagtgaa tctgaatggt tgtagagttg tgtaatggat cccactgagg tgatcagggc   3720
ccaaagcgga gggtagatgg ccaggtttta acaaaagagg gaatagtagt tgaggctgag   3780
ggtccaggac cagagccatg gctttctgta tggtagagtc aagactttgg gcaactgggg   3840
gctgcagtct gggagcacag gagcaggaat ttcagataag gaggaagagg aagaagagga   3900
ggaggagggt tcatctctct ggacacaggt tcgcaccaca aatctcatcc attgggttct   3960
tagcaggctc tggggttgggt gtgcccccac actcggaact caccaaccca gccagcaacc   4020
tggcaactgt ggcaatcctg cctgtgtgtg ctgaggtccc catggtggcc ttcacgctgg   4080
agctgcagca cgccctgcag gccatcggtc agtggggtga gggtcatggg tgggggctgg   4140
cggtgggtgg gacattagtg agtgagagat gttagggtag gtcatttggg gggtggaggg   4200
gaacagggcc acaggggcgg ggtaatgggt attcttttct gagttaggcc ccagccctgt   4260
ggaccatggt tcccagcctc ccttccccac ctaccctag gtccgacgct actccttaac   4320
agtgacatca tccgggcacg cctggggggcc tccgcactgg ataggtgtgt gttgcagaag   4380
ggagtgggga gggtggtggg tggggctgga gcctcaaatt ctttcagacc tgagctcaag   4440
ttctcggctt ccaaccacgg agcctgcgtc ttacccatag gtcaatgggg agattcgcag   4500
tggtgtgaat ctgcccaccg gagcacggac ttccatggtg gggctttggg tgtctaagtt   4560
cctcccagca acggagctat gtggtctcgg ggagcacact gaccccaggc caaccccagg   4620
atgacgctgc cccttccca ccctagcatc caagagttcc ggctgtcagg gtggctggcc   4680
cagcaggagg atgcacaccg tatcgtactc taccagacgg acgcctcgct gacgccctgg   4740
accgtgcgct gcctgcgaca ggccgactgc atcctcattg tgggcctggg ggaccaggag   4800
cctaccctcg gccaggtcgg aagcccgtgc cccctgatct cacccacctc ggccccgtc    4860
ctttgccctc ccgtgcctgc accaggccac gtgcaccctc gccatagggg taggcgatca   4920
gggacccagg tgtggccagg tggtggtggg gcggctggtg acctcagccg tccgtattcc   4980
gcagctggag cagatgctgg agaacacggc tgtgcgcgcc cttaagcagc tagtcctgct   5040
ccaccgagag gagggcgcgg gccccacgcg caccgtggag tggctaaata tgcgcagctg   5100
gtgctcgggg cacctgcacc tgcgctgtcc gcgccgcctc ttttcgcgcc gcagccctgc   5160
caagctggtg aggagcgggc cggcccccac cttctagggg cgtggctggt gggcgaggct   5220
tgggagactg gggcgggggcc tgggagggct gaggacaggc tcgaaggtca gggtacccct   5280
gggggatccg ccggaccccg ccctcatgct cctgggtcgc gactatctcc cccatcccag   5340
catgagctct acgagaaggt tttctccagg cgcgcggacc ggcacagcga cttctcccgc   5400
ttggcgaggg tgctcacggg gaacaccatt gcccttgtgc taggcggggg cggggccagg   5460
tgagggcggg gcttgctctc tggggcgggg gcctggatgt ccgagggtgg agcttcctgg   5520
gagaaaccgt gggggcgggg cctgggtgtt cgagggtgga gcttccctc cgggagagac    5580
cccgtgggta ggggcgggtc ctttgttcct tagcagtgcg ggaggtggga ggaggtaggg   5640
gcagggagt tcctgcaggt ggggcctagc gggtcactgg ggcccatttt cccggcaggg    5700
gctgctcgca catcggagta ctaaaggcat tagaggaggc gggggtcccc gtggacctgg   5760
tgggcggcac gtccattggc tctttcatcg gagcgttgta cgcggaggag cgcagcgcca   5820
gccgcacgaa gcagcgggcc cgggagtggg ccaaggtgtg tgttgcgagg agggattgct   5880
gcacccagg agtgccataa aacccgtggt tccaacctaa cctgatccca tggggggagcc   5940
tccggggtca gggtgaccct tcctgattaa atctatgatc cccagctgtc cggacttta    6000
tagataagct tctaggactc tgggtaacca ctttgggacc tcctgtctac tgaccctaac   6060
ccataacccc caacgagagc acccaggcc cttggtgacc accttgtgga tggccttggg    6120
tgaccacatc atccctaagt gttccttttt ttttttttt tttttttttt gagactgagt    6180
cttgctctgt cacccaggct ggagtgcagt ggcacaatct cggctcactg caacctccac   6240
ctcccaggtt caagtgattt atccgcctca gcctcatgag tagctggat tacaggcacg    6300
ccccaccagc ccggcaaatt tttttgtatt ttagtagaga tggggtttca ccatgttggc   6360
taggctgctt ttgaactcct ggcctcaagt gatctgcccg ccttggcctc caaagtgctg   6420
ggattaccag tgtgagccgc tgcacctggc ccctaagtgc tgcttgctca ccccctattg   6480
atgaacctta tctgtgaccc catgtaactc ctatttgacc ctgtctggcc ccttgtccct   6540
```

2642

```
agagcatgac ttcggtgctg gaacctgtgt tggacctcac gtacccagtc acctccatgt   6600
tcactgggtc tgcctttaac cgcagcatcc atcgggtctt ccaggataag cagattgagg   6660
taggcccacc tcatcccctg ccctgcctac ccctcccchg aggagccccc tgctcctccc   6720
ccacctcgat ccctgtcccc gcaggacctg tggctgcctt acttcaacgt gaccacagat   6780
atcaccgcct cagccatgcg agtccacaaa gatggtgggt gtccccgccc agcctgcagc   6840
aaccgctgac gtcacgtggg gttgggggga tgcttccggg agggccgctg agcttctggg   6900
acgttgttaa cacgagtgac cgtccaccct ggcccgatca ccgaccacta accgccaccc   6960
actaatgccc cggagacccc aggtacgtcc gtccttgggg gaggggagca gggagactcg   7020
tcggacgcct tacccccctc acgccatccc cgcaggctgt gtgtggcgtt acgtccgggc   7080
cagcgcctcc tactgcccct acctgccccc actgtgcgac cccaaggacg ggcacctgct   7140
ggtggacggg tgctacgtta acaacgtccc aggtcagcga gcccgtcagg ccggctgggc   7200
ctccggcgtg tctgagcgtg tctgtgcgtg tttgtgtctg tgtgtcccac cgcgcaggct   7260
ccctgtggcg gtacgtgcgc gccagcatga cgctgtcggg ctacctgccc ccgctgtgcg   7320
accccaagga cgggcaccta ctcatggatg gcggctacat caacaatctg ccaggcaagt   7380
ggccgccgc accacccgca cacgcaagca cctcccgcac cacacacaca cacacgcgtg   7440
ggcacacaca gacaggctcg atgacgggac acatgcccaa gctgcccatg caggggtgca   7500
gacacacatg cgcacacata cgatcacttg cacaaaatga tacatgaatg tgcctgtgga   7560
cagcgacatg tgcagttgag atctacattc tggccaggcg cggtggctca gcctggaatc   7620
ccagcacttt gggaggcctg aggtgggtgg atcacctgag gtcaggagtt tgagacccgc   7680
ctggccaaca tggtgaaacc ccgtctctac taaaaataca aaaaattaac cgggctggtg   7740
gggtgcgcct gtaatcccag ctactcagga ggctgaggca gataaatcac ttgaacctgg   7800
gaggtggagg ttgcagtgag ctgagatcat gctactgcac tccagcctgg gtgacagagc   7860
aagactcagt ctccaaaaaa aaaaaaaaa aaaagaaaga aatctacatc tacctgctgg   7920
cgtgctgtgt taagcacaag tggatgtaca tacaagaggg acaggtgcac acgtccacac   7980
acacatcagg ggacatgcag gtggaatgca acactcgtgt gcacaccagc tatatacgca   8040
aatgctttct ctcaggggca ggtagggctt acacacacgt gtacacacag gcacatgtgc   8100
acagatgaac acgtgtgtca gtgaaatagg gcatttgcca acgcatgcca gtctgtcccg   8160
tttgtcctgc acgttccctc aaacacgcag ggatgtgcac acgtagat aggatgtggc   8220
acctctgacc gagttaagtc atgcctacca cctttatggg tgcaggtgag aagcgggcag   8280
gtacacaact taaaatctca caccccagaa gtgtgcatat atgaacagac atgtacacca   8340
actgcacaca tgctcacaat cttgtaggcc aggggtgggc aaactatggc ccacaggctg   8400
agtcctgccc tctgtttgat tgtataaata aagctttatt gagctgggca cagtggctca   8460
tgcctgtaat cccagcactt tgggaggctg aggcgggtgg atcacttgag gtcaggaatt   8520
cgaggccagc ctggccaaca tggtgaaacc cggtttctac taaaaataca aaaattagct   8580
gggcgtggtg gtgtatgcct ctaatcccag ctactcgaga ggctgaggca agagagttgc   8640
ttgaacccgg gaggtggagg ttgcatcgag cccagatcgc gccattgcac tccagcctgg   8700
gcgacagagt gagagtctgt ctcagaaaat aaaacaaaac ctcccaacac ctgaccccc   8760
tcctcaactt cagttgcatc atttgcacgc ctgtgcatga cagcatggtg tttgcatgtg   8820
tgggtattct ctctctcttt ttttttgcg tgatcatttg catgatggca tctgtgggac   8880
tgggttgaac atctctgccc cgggcccca aggggagcag cccgctgacc cccctggccc   8940
cacagcggac atcgcccgca gcatgggtgc caaaacggtc atcgccattg acgtggggag   9000
ccaggatgag acggacctca gcacctacgg ggacagcctg tccggctggt ggctgctgtg   9060
gaagcggctg aatccctggg ctgacaaggt aaaggttcca gacatggctg aaatccagtc   9120
ccgcctggcc tacgtgtcct gtgtgcggca gctagaggtt gtcaagtcca gctcctactg   9180
cgagtacctg cgcccgccca tcgactgctt caagaccatg gactttggga gttcgacca   9240
gatctatgtg agtgggcagg agtggcatgg tgcctgcata ggtggtctgg ctaagctttg   9300
ctacttaaag cccagagtgg tatgaggggg aggaatccag gaggaatcca ggaatcccat   9360
ctggaatctc tggaaaacag atcagtgatc aattggtgat gtctgcaggg gatgtagtag   9420
gggtgtggct gtgcatgtgc tgtgtaagaa ctttctcctt ataggccagc tgcacccctg   9480
gaagcactgt atagtgattt ctactgccat ttctgcattg gtgggaatga gaatagtgat   9540
gaagcagaaa tgtctgccac agttccagga gagggaggta gcagtgcgtg tgttatgtgc   9600
tactgaccct gaaaaatgtg ccatagccca agccaattga aattgatcag ggggccaggc   9660
atggtggctc atgcttgtaa tcccagcacc ttgggaagct gaggtgggag gattgcttga   9720
aaccaggagt tcaagaccag cctgtgcaac atagcaaaac cccatctcta caaagattaa   9780
aaataaaaa ttagctgggt gtggttgtgc atgcctgtca ccccagctac ttaggggct   9840
gaggtgggag gaccgctcga gcccaggagt ttgaagctgc agtgagctat gattgcgtca   9900
ctgcactcca gcctgggtga cagagcaaaa ctctgtctct aagaaaaaga aagggccagg   9960
catggtggct catgcattta atcccagcat tttgggaggc cgaggtgggc agatcacttg   10020
aagtcaggag ttcaagacca gcctggtcaa catggtgaaa cctcatctct actaaatata   10080
caaaaattag ctgggtgtgg tggcacatgc ctatagtccc agctacttga gaggctgcag   10140
caggagaaat cgcttgaacc taggaggcag tggttgcagt gagccaagat tgtgccactg   10200
```

2643

```
cactccagcc tgggtgacag agtgagactc tgtctcaaaa aataatatta attttaaaaa    10260
ttaaagataa aaataataaa aattttttta aaaagaaaga aattgatcag tagctgcagc    10320
ccagaagccc tgagtctgag aagagatgtg tgatgtccct tgtgggctca ctgggatagc    10380
atgccatgag aaattcaaga tgtttgctgt gggcttgggg atggcgacat ccacagatgt    10440
actgcctgtt tgcagacttc aaaataagct cacacatcac caccttgtgt tatttgctac    10500
ccagcaccct gcatggggct gtgtgggaaa gaacatggag agattgattg gtaatgtctg    10560
tcaagggcag gacaggggat gtgtaggcga gtgtgctatg tgcagctgac tctgaaatag    10620
gtttagtctc aaatgcaact cccccagaga atcaggcttt tgaggggcca gagaatgggc    10680
agacagagtg gggacaagca aagcagggtt gcagacatgg acccagcccc tcatttccca    10740
caggatgtgg gctaccagta cgggaaggcg gtgtttggag gctggagccg tggcaacgtc    10800
attgagaaaa tgctcacaga ccggcggtct acagacctta atgagagccg ccgtgcagac    10860
gtaagcctgt gatgccccca gggccactct gactccactg attacagaac ccaagccccc    10920
ttaaagtctc cccgaaacct cagatgaccc cacatgtccc tgggttttgc tgagctctca    10980
gacctctgct gacttcagag agttcccacc ctaggatctc ctctgagccc ccaatgcacc    11040
actgggcccc ccaggggccc caagactctg tgggccccccc ctaagagcct caccagtgtc    11100
accccacagg tgcttgcctt cccaagctct ggcttcactg acttggcaga gattgtgtcc    11160
cggattgagc cccccacgag ctatgtctct gatggctgtg ctgacggtga ggggcccagg    11220
ggacccccca agagggaggg gagtggctgg agatggcagg ccagccccaa tcccctcacc    11280
tgtgccctgc tccccgattc caggagagga gtcagattgt ctgacagagt atgaggagga    11340
cgccggaccc gactgctcga gggatgaagg ggggtccccc gagggcgcaa gccccagcac    11400
tgcctccgag atggtgagag tgggtggccc agggtcccct cacatccccc agagggtcat    11460
gagtacagtg tcaggcaggg gagccggggg cgtatttgag atcctgtgtg tgctgggtgc    11520
tggctgacat gtgacgcatc agtgtcccgt gctgggtgac gtgtgtgtga ccttccctcg    11580
caggaggagg agaagtcgat tctccggcaa cgacgctgtc tgccccagga gccgcccggc    11640
tcagccacag atgcctgagg acctcgacag gggtcacccc ctccctccca cccctggact    11700
gggctggggg tggccccgtg ggggtagctc actccccctc ctgctgctat gcctgtgacc    11760
cccgcggccc acacactgga ctgacctgcc ctgagcgggg atgcagtgtt gcactgatga    11820
cttgaccagc ccctccccca ataaactcgc ctcttggaaa tggc                     11864


<210> 5711
<211> 11845
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (2972)
<223> n equals a,t,g, or c

<400> 5711
aggacgtgag cctgcacttc gtgctctggg gctgcctgca cgtgtaccag cgcatgatcg      60
acaaggcgga ggacgtgtgc ctgttcgtag cgcagcccgg ggaactggtg gggcagctgg     120
cggtgctcac tggcgaacct ctcatcttca cactgcgagc ccaacgcgac tgcaccttcc     180
tgcggatctc caagtccgac ttctatgagt atgacagccc gaagttggag tgtgggtggc     240
actcggagga ccccaacccg tgggagtggc cagaacccca tccctcaacc tcactcctgg     300
aagagcagaa gggagccccc agatctggcc tcccagcgcc ggtgtaggac ggttttgagg     360
ccttcctctt tcatcccaag tctgttcctg caggatcatg cgcgcacagc ccagtgtggt     420
gctgagtgcg gcgcacacgg tggcagccag gatgtcgccc ttcgtgcgcc agatggactt     480
cgccatcgac tggactgcag tggaggcggg acgcgcgctg tacaggtgca gctcccaccg     540
cgctgctcag gcccggccta ggggtgggga cctgggggtg gtcagacctt gctgacctcc     600
acgcccactc aggcagggcg accgctccga ctgcacttac atcgtgctca atgggcggct     660
gcgtagcgtg atccagcgag gcagtggcaa gaaggagctg gtgggcgagt acggccgcgg     720
cgacctcatc ggcgtggtga gcgcgacccc cacccactga cctctggcct tttccaggcc     780
agtccctcga caactcacac acatcatccc gggtaatcca gggagtggtg aatgcagctc     840
ccgacctctg aggtcaccca gtccactccc cgccctcccc agagctctaa tgggtagcga     900
gattccgcct gtcgtggatc cctgtcctct ccctctcccc agagctctaa tgggtagcga     960
gcgaggcttg cttccctaca cccccattgc aggggagccc tagatggggc agtacagccc    1020
cctttccacc catcttcggc ctcctcattc cccacccaag cagccccaat catgcacgcg    1080
gcccccccagg tggaggcact gacccggcag ccgcgagcca cgacggtgca cgcggtgcgc    1140
gacacggagc tggccaagct tcccgagggc accttgggtc acatcaaacg ccggtacccg    1200
```

2644

```
caggtgcggc ctgttgtggg cggggcagag aggcggaggc gggactccgg ggggtgggg    1260
gccgggccta gtgtgtgggc ggggcttaca gaggggcggg gtcgagggag gggccgaagc    1320
gagagagtga gggcgggggc tctcgggggt gggacccagg taacgggcac ccaggagccc    1380
cggcatagga gggagaggtg ggacctggac agccgcttcc caggtctcac tgaaatgccg    1440
gcctccaacg cccccaggtc gtgacccgcc ttatccacct actgagccag aaaattctag    1500
ggaatttgca gcagctgcaa ggaccctttcc caggtgagag ccggccggcc cagagcgtgc    1560
tgggagatgt agtccggcgt ccagagcatg ctgggaggga agccttcttt cctgagggat    1620
gctgggaaat ggagttccgc gaagaaatcg tgccctgag ggtttcaaac cctaagtagg    1680
acccaggtgc agagcattct ggggaatgga gttcgtgttc ctgagcatgc tgggaaacga    1740
agtcctcgac ccctggcgtg ctagttaatg ggctcgaaag taaatcagtg gtgccgggga    1800
gggagtctta ggcggtggac ttggcgtagt ctgcccggga gtcagggctt gctggggaag    1860
tccacggcct ggacgttgag agaaagggag tcctagatca gaatatgatg gcagggccgt    1920
catggtggct catgcctgta atctcagcac tttgggaggc tgaggcagga ggatcgcttg    1980
agcccaggag attgagtttg aaaccagcct gggcaacata gtaggacccc cgtctctaca    2040
aaaatttcaa acattagctg ggcttggtga cacatgcctg tagtctcagc cactcaggag    2100
gctgaggcgg gaggattgat tgcttgagcc cggaggtcga ggctgcagtg agccgtgatc    2160
gtgccactgt actccagccg ggatgacaga gctagaacct gtttcagaaa aaataaaaca    2220
gcaaacaaac aaaactcccc ataccatgat ggaaaatagt ctgtggattg ttgtttagga    2280
ctctgggcac ctcgccttct gaagttacag cttgctggga gatgtagccc cctgtttcag    2340
cctgtggctt cagtgagcta gaacagaatg gggcgtgcgg tggggttgga ggcctgctga    2400
aatgagggcc tgagtttcta cattgtggtg gccagattct gggccagccc agcaacctag    2460
ataccccttt tccctccagg ggttctaccc aattggccct gagccctaga tcccccaagg    2520
cgggggcagg gcggtagtgg cagaaaagac atcattaaga aattacagag gcctggggcg    2580
gtggctcacg cctgtaatct cagcacttg tgaggctgag gcaggtgaat cacttgaggt    2640
caggggttcg agaccagcct ggccaacgtg gtgaaactca tctctactaa aagtacaaaa    2700
attagtcggg tgtggtggtg ggtgcctgta atcccagcta cttggacggc tgaggcagga    2760
gaatcgcttg aaccggggag gcagaggttg cagtgagccg agcctacgcc attgcactcc    2820
agcctgggca accagagcaa aactccatct caaaaaaaaa aaaagaaaga aaaaaaaag    2880
aaaagaaaag gaaagaaatt acagatagag aatacaatat ctagaagaca aaagagggtc    2940
atcttgccgt gtggctgaaa gagggaggga gnaagggagg gagaaagagg cttttctaag    3000
gacagtgagc tgagacttga caactaagat ggggccagac atgaaagaga aaccaggggt    3060
gctgcacagg aggctggtgg ttttgaagca ctgaggagga aagcgatcaa ggggagaggt    3120
gatgggggtt ggggggtaag tcacataggg gctaggggct gtggacaggc acttgagctt    3180
atttagattg ttattgttag attggggagg aaggattcca ccagtaagga ggcaacaaga    3240
ggtctaggca agatatggga gttgacagct ggtctaggct gttagtggag aaactgggaa    3300
gcaacagctg ggtcaaaagt agctttttctt ttcttgtctt tgtctttttct tttattttct    3360
ttttaagaca gggtctcgct ctgtagccca ggctggagtg cagtggcacg atctcggctc    3420
actgcaacct ctgcctccca ggttcaagtg attctcctgc ctcagcctcc caagtagctg    3480
ggattacagg tgtatgccac catgcctggc taattgttgt gtatttttag tagagcagtg    3540
tttctccatg ttggctaggc taaaaatagc tttatttctg cctcgtttta tgttcagttc    3600
ccccattaga cagaggaacc aaggccagaa tgaggcaggg gcactggcca attgatctcc    3660
caagcacagt gaatctgaat ggttgtagag ttgtgtaatg gatcccactg aggtgatcag    3720
ggcccaaagt ggagggtaga tggccaggtt ttaacaaaag agggaatagt agttgaggct    3780
gagggtccag gaccagagcc atggctttct gtatggtaga gtcaagactt tgggcaactg    3840
ggggctgcag tctgggagca caggagcaag aatttcagat aaggaggaag aggaagaaga    3900
ggaggaggag ggttcatctc tctggacaca ggttcgcacc acaaatctca tccattgggt    3960
tcttagcagg ctctgggttg ggtgtgcccc cacactcgga actcaccaac ccagccagca    4020
acctggcaac tgtggcaatc ctgcctgtgt gtgctgaggt ccccatggtg gccttcacgc    4080
tggagctgca gcacgccctg caggccatcg gtcagtgggg tgagggtcat gggtgggggc    4140
tggcggtggg tgggacatta gtgagtgaga gatgttaggg taggtcattt gggggggtgga    4200
ggggaacagg gccacagggg cggggtaatg ggtattcttt tctgagttag gccccagccc    4260
tgtggaccat ggttcccagc ctcccttccc cacctacccc taggtccgac gctactcctt    4320
aacagtgaca tcatccgggc acgcctgggg gcctccgcac tggataggtg tgtgttgcag    4380
aagggagtgg ggagggtggt gggtggggct ggagcctcaa attctttcag acctgagttc    4440
aagttctcgg cttccaacca cggagcctgc gtcttaccca taggtcaatg gggagattcg    4500
cagtggtgtg aatctgccca ccggagcacg gacttccatg gtggggcttt gggtgtctaa    4560
gttcctccca gcaacggagc tatgtggtct cggggagcac actgaccccca ggccaacccc    4620
aggatgacgc tgccccttc ccaccctagc atccaagagt tccggctgtc agggtggctg    4680
gcccagcagg aggatgcaca ccgtatcgta ctctaccaga cggacgcctc actgacgccc    4740
tggaccgtgc gctgcctgcg acaggccgac tgcatcctca ttgtgggcct ggggggaccag    4800
gagcctaccc tcggccaggt cggaagcccg tgcccccctga tctcacccac ctcggccccc    4860
```

2645

```
gtcctttgcc ctcccgtgcc tgcaccaggc cacgtgcacc ctcgccatag gggtaggcga   4920
tcagggaccc aggtgtggcc aggtggtggt ggggcggctg gtgacctccg ccgtccgtat   4980
tccgcagctg gagcagatgc tggagaacac ggctgtgcgc gcccttaagc agctagtcct   5040
gctccaccga gaggagggcg cgggcccacg cgcaccgtgg agtggctaaa tatgcgcagc   5100
tggtgctcgg ggcactgcac ctgcgctgtc cgcgccgcct cttttcgcgc cgcagccctg   5160
ccaagctggt gaggagcggg ccggccccca ccttctaggg gcgtggctgg tgggcgaggc   5220
ttgggagact ggggcggggc ctgggagggc tgaggacagg ctcgaaggtc agggtacccc   5280
tgggatccgc cggaccccgc cctcatgctc ctgggtcgcg gctatctccc ccatcccagc   5340
atgagctcta cgagaaggtt ttctccaggc gcgcggaccg gcacagcgac ttctcccgct   5400
tggcgagggt gctcacgggg aacaccattg cccttgtgct aggcgggggc ggggcaaggt   5460
gagggcgggg cttgctctct gggggcgggg cctggatgtc cgagggtgga gcttcctggg   5520
agaaaccgtg ggggcggggc ctgggtgttc gagggtggag cttcccctcc gggagagacc   5580
ccgtgggtag gggcgggtcc tttgttcctt agcagtgcgg gaggtgggag gaggtagggg   5640
caggggagtt cctgcaggtg gggcctagcg ggtcactggg gcccattttc ccggcagggg   5700
ctgctcgcac atcggagtac taaaggcatt agaggaggcg ggggtccccg tggacctggt   5760
gggcggcacg tccattggct cttttcatcg gagcgttgtac gcggaggagc gcagcgccag   5820
ccgcacgaag cagcgggccc gggagtgggc caaggtgtgt gttgcgagga gggattgctg   5880
caccccagga gtgccataaa acccgtggtt ccaacctaac ctgatcccat gggggagcct   5940
ccggggtcag ggtgaccctt cctgattaaa tctatgatcc ccagctgtcc ggacttttat   6000
agataagctt ctaggactct gggtaaccac tttgggacct cctgtctact gaccctaacc   6060
cataacccc aacgagagca cccagggccc ttggtgacca ccttgtggat ggccttgggt   6120
gaccacatca tccctaagtg ttcctttttt tttttttttt ttttttgag actgagtctt   6180
gctctgtcac ccaggctgga gtgcagtggc acaatctcgg ctcactgcaa cctccacctc   6240
ccaggttcaa gtgatttatc cgcctcagcc tcatgagtag ctgggattac aggcacgccc   6300
caccagcccg gcaaattttt ttgtatttta gtagagatgg ggtttcacca tgttggctag   6360
gctgcttttg aactcctggc ctcaagtgat ctgcccgcct tggcctccaa agtgctggga   6420
ttaccagtgt gagctgctgc acctggcccc taagtgctgc ttgctcaccc cctattgatg   6480
aaccttatct gtgaccccat gtaactccta tttgaccctg tctggcccct tgtccctaga   6540
gcatgacttc ggtgctggaa cctgtgttgg acctcacgta cccagtcacc tccatgttca   6600
ctgggtctgc ctttaaccgc agcatccatc gggtcttcca ggataagcag attgaggtag   6660
gcccacctca tccccttgccc tgcctacccc tccccggagg agcccccctgc tcctcccccca   6720
cctcgatccc tgtccccgca ggacctgtgg ctgccttact tcaacgtgac cacagatatc   6780
accgcctcag ccatgcgagt ccacaaagat ggtgggtgtc cccgcccagc ctgcagcaac   6840
cgctgacgcc acgtggggtt ggggggatgc ttccgggagg gccgctgagc ttctgggacg   6900
ttgttaacac gagtgaccgt ccaccctggc ccgatcaccg accactaacc gccacccact   6960
aatgccccgg agaccccagg tacgtccgtc cttgggggag gggagcaggg agactcgtcg   7020
gacgccttac cccctcacg ccatcccgc aggctgtgtg tggcgttacg tccgggccag   7080
cgcctcctac tgcccctacc tgcccccact gtgcgacccc aaggacgggc acctgctggt   7140
ggacgggtgc tacgttaaca acgtcccagg tcagcgagcc cgtcgggccg gctgggcctc   7200
cggcgtgtct gagcgtgtct gtgcgtgttt gtgtctgtgt gtcccaccgc gcaggctccc   7260
tgtggcggta cgtgcgcgcc agcatgacgc tgtcgggcta cctgcccccg ctgtgcgacc   7320
ccaaggacgg gcacctactc atggatggcg gctacatcaa caatctgcca ggcaagtggc   7380
cgcccgcacc acccgcacac gcaagcacct cccgcaccac acacgcac acgcgtgggc   7440
acacacagac aggctcgatg acgggacaca tgcccaagct gcccatgcag gggtgcagac   7500
acacatgcgc acacatacga tcacttgcac aaaatgatac atgaatgtgc ctgtggacag   7560
cgacatgtgc agttgagatc tacattctgg ccaggcgcgg tggctcagcc tggaatccca   7620
gcactttggg aggcctgagg tgggtggatc acctgaggtc aggagtttga gacccgcctg   7680
gccaacatgg tgaaacccg tctctactaa aaatacaaaa aattaaccag ctggtgggg   7740
tgtgcctgta atcccagcta ctcaggaggc tgaggcagat aaatcacttg aacctgggag   7800
ttggaggttg cagtgagcg agatcatgct actgcactcc agcctgggcg acagagcaag   7860
actcagtctc aaaaaaaaaa aaaagaaaga agaaatctac atctacctgc tgcgtgctgt   7920
gtttagcaca agtgatgtac gtacaagagg acaggtgcac acgtccacac acacatcagg   7980
ggacatgcag gtgaatgcaa cactcgtgtg cacaccagct atatatgcac atgctttctc   8040
tcaggggcag gtagggctta cacacacgtg tacacacagg cacatgtgca cagatgaaca   8100
cgtgtgtcag tgaaataggg catttgccaa cgcatgccag tctgtcccgt ttgtcctgca   8160
cgttccctca aacacgcagg gatgtgcaca cacgtagata ggatgcggca cctctgaccg   8220
agttaagtca tgcctaccac ctttatgggt gcaggtgaga agcggcagg tacacaactt   8280
aaaatctcac accccagaag tgtgcatata tgaacagaca tgtacgccaa ctgcacacat   8340
gctcacaatc ttgtaggcca ggggtgggca aactatggcc cacaggctga gtcctgccct   8400
ctgtttgatt gtataaataa agctttattg agctgggcac agtggctcat gcctgtaatc   8460
ccagcacttt gggaggctga ggcgggtgga tcacttgagg tcaggaattc gaggccagcc   8520
```

2646

```
tggccaacat ggtgaaaccc ggtttctact aaaaatacaa aaattagctg ggcgtggtgg    8580
tgtatgcctc taatcccagc tacttgagag gctgaggcaa gagagttgct tgaacccggg    8640
aggtggaggt tgcatcgagc ccagatcgtg ccattgcact ccagcctggg cgacagagtg    8700
agactctgtc tcagaaaata aaacaaaacc tcccaacacc tgaccccct cctcaacttc     8760
agttgcatca tttgcacgtc tgtgcatgac agcatggtgt ttgcatgtgt gggtattctc    8820
tctttttttt tgcgtgatca tttgcatgat ggcatctgtg ggactgggtt gaacatctct    8880
gccccgggcc cccgagggga gcagcccgct gaccccctg gccccacagc ggacatcgcc     8940
cgcagcatgg gtgccaaaac ggtcatcgcc attgacgtgg ggagccagga tgagacggac    9000
ctcagcacct acggggacag cctgtccggc tggtggctgc tgtggaagcg gctgaatccc    9060
tgggctgaca aggtaaaggt tccagacatg gctgaaatcc agtcccgcct ggcctacgtg    9120
tcctgtgtgc ggcagctaga ggttgtcaag tccagctcct actgcgagta cctgcgcccg    9180
cccatcgact gcttcaagac catggacttt gggaagttcg accagatcta tgtgagtggg    9240
caggagtggc atggtgcctg cataggtggt ccagctaagc tttgctactt aaagcccaga    9300
gtggtatgag ggggaggaat ccaggaggaa tccaggaatc ccatctggaa tctctggaaa    9360
acagatcagt gatcaattgg tgatgtctgc aggggatgta gtaggggtgt ggctgtgcat    9420
gtgctgtgta agaactttct ccttataggc cagctgcacc cctggaagca ctgtatagtg    9480
atttctactg ccatttctgc attggtggga atgagaatag tgatgaagta gaaatgtctg    9540
ccacagttcc aggagaggga ggtagcagtg tgtgtgttat gtgccactga ccctgaaaaa    9600
tgtgccatag cccaagccaa ttgaaattga tcaggggggcc aggcatggtg gctcatgcct    9660
gtaatcccag caccttggga agctgaggtg ggaggattgc ttgaaaccag gagttcaaga    9720
ccagcctgtg caacatagca aaaccccatc tctacaaaga ttaaaaataa aaaattagct    9780
gggtgtggtt gtgcatgcct gtcaccccag ctacttaggg ggctgaggtg ggaggaccgc    9840
tcgagcccag gagtttgaag ctgcagtgag ctatgattgc gtcactgcac tccagcctgg    9900
gtgacagagc aaaactctgt ctctaagaaa aagaaagggc caggcatggt ggctcatgca    9960
tttaatccca gcattttggg aggccgaggt gggcagatca cttgaagtca ggagttcaag   10020
accagcctgg tcaacatggt gaaacctcat ctctactaaa tatacaaaaa ttagctgggt   10080
gtggtggcac atgcctatag tcccagctac ttgagaggct gcagcaggag aaatcgcttg   10140
aacctaggag gcagtggttg cagtgagcca agattgtgcc actgcactcc agcctgggtg   10200
acagagtgag actctgtctc aaaaaataat attaatttta aaaattaaag ataaaaatat   10260
taaaaatttt tttaaaaaga aagaaattga tcagtagctg cagcccagaa gccctgagtc   10320
tgagaagaga tgtgtgatgt cccttgtggg ctcactggga tagcatgcca tgagaaattc   10380
aagatgtttg ctgtgggctt ggggatggcg acatccacag atgtactgcc tgtttgcaga   10440
cttcaaaata agctcacaca tcaccacctt gtgttatttg ctacccagca ccctgcatgg   10500
ggctgtgtgg gaaagaacat ggagagattg attggtaatg tctgtcaagg gcaggacagg   10560
ggatgtgtag gcgagtgtgc tatgtgcagc tgactctgaa ataggtttag tctcaaatgc   10620
aactccccca gagaatcagg cttttgaggg gccagagaat gggcagacag agtggggaca   10680
agcaaagcag ggttgcagac atggacccag cccctcattt cccacaggat gtgggctacc   10740
agtacgggaa ggcggtgttt ggaggctgga ccgtggcaa cgtcattgag aaaatgctca   10800
cagaccggcg gtctacagac cttaatgaga gccgccgtgc agacgtaagc ctgtgatgcc   10860
cccagggca ctctgactcc actgattaca gaacccaagc ccccttaaag tctccccgaa    10920
acctcagatg accccacatg tccctgggtt ttgctgagct ctcagacctc tgctgacttc   10980
agagagttcc caccctagga tctcctctga gcccccaatg caccactggg ccccccaggg   11040
gccccaagac tctgtgggcc cccctaaga gcctcaccag tgtcaccc caggtgcttg       11100
ccttcccaag ctctggcttc actgacttgg cagagattgt gtcccggatt gagcccccca   11160
cgagctatgt ctctgatggc tgtgctgacg gtgaggggcc caggggaccc ccaagaggga   11220
ggggagtggc tggagatggc aggccagccc caatcccctc atctgtgccc tgctccccga   11280
ttccaggaga ggagtcagat tgtctgacag agtatgagga ggacgccgga cccgactgct   11340
cgagggatga aggggggtcc cccgagggcg caagccccag cactgcctcc gagatggtga   11400
gagtgggtgg cccagggtcc cctcacatcc cccagagggt catgagtaca gtgtcaggca   11460
ggggagccgg gggcgtattt gagatcctgt gtgtgctggg tgctggctga catgtgacgc   11520
atcagtgtcc cgtgctgggt gacgtgtgtg tgaccttccc tcgcaggagg aggagaagtc   11580
gattctccgg caacgacgct tgtctgcccc aggagccgcc cggtcagcca cagatgcctg   11640
aggacctcga cagggtcac ccctccctcc caccctgga ctgggctggg ggtggccccg       11700
tggggtagct cactccccct cctgctgcta tgcctgtgac ccccgcggcc cacacactgg    11760
actgacctgc cctgagcggg gatgcagtgt tgcactgatg acttgaccag ccctccccc     11820
aataaactcg cctcttggaa atggc                                           11845


<210> 5712
<211> 715
<212> DNA
```

2647

<213> Homo sapiens

<400> 5712
atgtaaaaaa attttctttt ttctttttttt tttttttgag acggagtctc gctcagtcgc   60
ccaggctgga gtgcagtggc gcgatctcgg ctcactgcaa gctcctcctc ccgggttcac   120
gccattctcc tgcctcagac tcccaagtag ctgggactac aggcgcccgg caccacgccc   180
ggctaatttt ttgtactttt agtagagacg tggtttcacc gtgttagcca ggatggtctc   240
gatctcctga cctcgtgatc cgcctgcctc aggcctccca aagtgttggg attacaggca   300
tgagccatcg cgcccggcta aaaaaaattt ttatatttat ttatatttat atatagatgg   360
tgcttatatc caaagtcttt attctctcct tcatgtttct ttcttttctt ttttttttc   420
tgagacagag tctcgctctg tcgcccacgc tggagtgcag tggcgcgatc tcggctcatt   480
gcaagctccg cctcccgggt tcacgccatt ctcctgcctc agcctcccaa gtagctggga   540
ctacaggcgc ccgccaccac acccggctaa ttttttgtat tttcagtaga cgggggtttt   600
caccgtatta gccaggatgg tctcgatctc ctgacctctt gatccgcctg cctcggcctc   660
ccaaagttct gggattacag gcgtgagcca ccgtgcctgg ccttcttctt cttct   715

<210> 5713
<211> 266
<212> DNA
<213> Homo sapiens

<400> 5713
tgcgacctcc atctcccggg ttcaagcgat tctcctgcct cagcctcctg agtagctggg   60
attacaggcg cccgccacca cacccagcta aattttgtgg ggggttttt tggttttgtt   120
ttgttttttg ttttaatttt tgagacagtg tctctctctg tcacctaggc tggagtgcag   180
tgatgcgatc tcagcttatt gcagcctcca gctcttggat tcaagtgatt ctcatgcctc   240
agccttccaa gtagctgggg ccacag   266

<210> 5714
<211> 311
<212> DNA
<213> Homo sapiens

<400> 5714
catgtttctt tttttctttt tttttttttg agacggagtc tcgctctgtc gcccacgctg   60
gagtgcagtg gcgcgatctt ggctcattgc aagctccgcc tcccggtttc acgccattct   120
cctgcctcag cctcccaagt agctgggact acaggcgccc gccaccacac ccggctaatt   180
ttttgtattt tcagtagaga cggggtttca ctgtattagc caggatggtc tcgatctcct   240
gacctcttga tccgcctgcc tcggcctccc aaagttctgg gattacaggc gtgagccacc   300
gcgcctggcc t   311

<210> 5715
<211> 266
<212> DNA
<213> Homo sapiens

<400> 5715
tgcgacctcc atctcccggg ttcaagcgat tctcctgcct cagcctcctg agtagctggg   60
attacaggcg cccgccacca cacccagcta aattttgtgg ggggttttt tggttttgtt   120
ttgttttttg ttttaatttt tgagacagtg tctctctctg tcacctaggc tggagtgcag   180
tgatgcgatc tcagcttatt gcagcctcca gctcttggat tcaagtgatt ctcatgcctc   240
agccttccaa gtagctgggg ccacag   266

<210> 5716
<211> 2162
<212> DNA
<213> Homo sapiens

<400> 5716
```
ccgctcccag gtccccatca tcctccagtg gaataaaagc tctaagaagt ttgtcccccа        60
tggtgacatc cccaacatgg aggacgtact ggctgtgaag agcttccgaa tgcaaaatac       120
cctctacctt tcccttaccc gcttcatcgg ggactcccgg gtcatgaggt ggaacagtaa       180
gcagtttgtg gagatccaag ctcttccatc ccggggggcc atgaccctgc agccctttc        240
ttttaaagat aatcactacc tggccctggg gagtgactat acattctctc agatatacca       300
gtgggataaa gagaagcagc tattcaaaaa gtttaaggag atttatgtgc aggcgcctcg       360
ttcattcaca gctgtctcca ccgacaggag agatttcttt tttgcatcca gtttcaaagg       420
gaaaacaaag attttgaac atataattgt tgacttaagt ttgtgaaggt gtggtgggtg       480
aaactaagag aaatgtagca ttagctctca caaaagagga ccaagaaaaa tcaacaaaca       540
aatcaaagcc aggctcagag ctctgaaatt aaaaagcact gaaatagtta gatgttttca       600
aactttaga actcacattt taatcaggga ttgcatttat tggctaactg catgacatgc       660
ccattctacc atttaaaaaa aaatcttaaa gcctgtaatt tctgagaaaa gagtacagca       720
tttactctta tcatctagaa atgtaatatg cttccccccc tcttttgat gaggaagaag       780
aaaattggat aagatgggac agcacttata atgaaataaa aaaaactttg agccctctc       840
attccacttt agcaatcttt ttggtaagaa ctcttaaagc caaagtctg ctgaaagat        900
ttgctgatta ttagtttaaa aatcttgtaa cactcagcag tgctattttg agtcatccca       960
gtttcctgaa agtaatgccc agtcttcctg aatcctcctt aatagcagaa ccttggtgat      1020
tttgttggct catatgaatg cttgtcatgg atatgttaac aatttagtgt ttgacattgc      1080
ttcctctgcc acaaagacaa tactctggtg acacatgtct agacccagca caggctgtag      1140
gcccaggagc gactcaaagg agttttccc tctttcttac ggttcaaagg tgaccctggt      1200
ggtggccaga gcagtaatgc ttgtttgatg ctcttcatgg ctcatctgct tctcggaacc      1260
cacccgttga gtttgtgggt aaccagcagg caggccaaag actggtgctt ttcatttcat      1320
cctttagagg gatgaaacag ttatttccgt ctgatgagca ttcggtagaa ttttgaagt      1380
gagattttat gaagtcaaag gggactttac acagatctcg acctgctttg aaacctagag      1440
gtggcccttt gatttgtgcg tgtccttgcc ctctggacaa cttaatattt caagtaatcg      1500
aataccaact tccctgccag cccacctgcc ttctgccccg cttgtgtaac agtcctgttt      1560
tgttgagttg ctgctattgc actgccagtg cagcccacac caaatcacaa cccaagatac      1620
tcagatagga agactccttc ctctcccagt actttaccaa aggaaccccc ccgcccagga      1680
cccacatggg gccacgtgtt ggcagtggaa tcagcctgtg caggctgggg atctcaggct      1740
gatcagtagg ggccagcttt ggagccagcc aagctgaatc ccacactcca ggtctgtgct      1800
caagagacca gatggtgtat ttccaaatgg gcctctctgg tatgggcaat aggcaagctc      1860
ctggggtctg gttatgtgga agattcttag tggatgttcc gcctggttag ctggttctct      1920
tcagagaata taaagtgaat gcctttaggg gtagctctga aagagaaacc caacaacttc      1980
attcctagcc atgaaagtag cacgatcata ttgtactgta ttgttattgt aaaatgatta      2040
tttgccatgt catgagtagg tagatgtttt gccacaaata tgaatgtgtt tgttgtttcc      2100
tgactttaag caatgaagat tgagacaata aatagcactc agagaatgaa gcattgatgt      2160
ta                                                                     2162
```

<210> 5717
<211> 277
<212> DNA
<213> Homo sapiens

<400> 5717
```
tggcttataa gcaacagaaa tttatttctc atagttctgg gcctgggaag tccaagatca        60
agacattggc agatttggta tgtggcaaga acccactgca tagctggcca cctctttgct       120
gtgtctatgt ggtgaaaggg cagagggagt tggaaggcac taatcccatt cctgaggact       180
ctgctcccat gacctaatca cctcccaaag gccccaccac caaataccat cacattggag       240
atgaggtttc atcatatgca tttggagaga gcacaaa                                277
```

<210> 5718
<211> 369
<212> DNA
<213> Homo sapiens

<400> 5718
```
ttttatacaa gactaaagcc tgtagtctac agagcgcctg tgctgtggaa ggagatattt        60
```

```
gttctggcca acttactaaa ggagcataga tgttcttggc acggggtggt gatatctttg      120
cttcattaat cttactgctc catcccaaga atccctgaag ttttaaacaa cttctgcaag      180
aagcattctt ccagtagtaa tgtaaaacaa aaaaccaacc aagcaacagc aaaaatgcaa      240
agcagagaaa tatgtggacc gtccccagtg gagatcagct tgaaggaggg ggtggatctt      300
tcttctactt tccctcccat cacccactgg gtggtcgtct gctcagctta tttcttcttt      360
atgaacttt                                                             369


<210> 5719
<211> 2162
<212> DNA
<213> Homo sapiens

<400> 5719
ccgctcccag gtccccatca tcctccagtg gaataaaagc tctaagaagt ttgtccccca       60
tggtgacatc cccaacatgg aggacgtact ggctgtgaag agcttccgaa tgcaaaatac      120
cctctacctt tcccttaccc gcttcatcgg ggactcccgg gtcatgaggt ggaacagtaa      180
gcagtttgtg gagatccaag ctcttccatc ccggggggcc atgaccctgc agcccttttc      240
ttttaaagat aatcactacc tggccctggg gagtgactat acattctctc agatatacca      300
gtgggataaa gagaagcagc tattcaaaaa gtttaaggag atttatgtgc aggcgcctcg      360
ttcattcaca gctgtctcca ccgacaggag agatttcttt tttgcatcca gtttcaaagg      420
gaaaacaaag attttgaac atataattgt tgacttaagt ttgtgaaggt gtggtgggtg       480
aaactaagag aaatgtagca ttagctctca caaaagagga ccaagaaaaa tcaacaaaca      540
aatcaaagcc aggctcagag ctctgaaatt aaaaagcact gaaatagtta gatgttttca      600
aacttttaga actcacattt taatcaggga ttgcatttat tggctaactg catgacatgc      660
ccattctacc atttaaaaaa aaatcttaaa gcctgtaatt tctgagaaaa gagtacagca      720
tttactctta tcatctagaa atgtaatatg cttcccccccc tcttttgat gaggaagaag      780
aaaattggat aagatgggac agcacttata atgaaataaa aaaaactttg agcccctctc      840
attccacttt agcaatcttt ttggtaagaa ctcttaaagc caaaagtctg ctgaaaagat      900
ttgctgatta ttagtttaaa aatcttgtaa cactcagcag tgctattttg agtcatccca      960
gtttcctgaa agtaatgccc agtcttcctg aatcctcctt aatagcagaa ccttggtgat     1020
tttgttggct catatgaatg cttgtcatgg atatgttaac aatttagtgt ttgacattgc     1080
ttcctctgcc acaaagacaa tactctggtg acacatgtct agacccagca caggctgtag     1140
gcccaggagc gactcaaagg agttttccc tctttcttac ggttcaaagg tgaccctggt     1200
ggtggccaga gcagtaatgc ttgtttgatg ctcttcatgg ctcatctgct tctcggaacc     1260
cacccgttga gtttgtgggt aaccagcagg caggccaaag actggtgctt ttcatttcat     1320
cctttagagg gatgaaacag ttatttccgt ctgatgagca ttcggtagaa tttttgaagt     1380
gagattttat gaagtcaaag gggactttac acagatctcg acctgctttg aaacctagag     1440
gtggcccttt gatttgtgcg tgtccttgcc ctctggacaa cttaatattt caagtaatcg     1500
aataccaact tccctgccag cccacctgcc ttctgccccg cttgtgtaac agtcctgttt     1560
tgttgagttg ctgctattgc actgccagtg cagcccacac caaatcacaa cccaagatac     1620
tcagatagga agactccttc ctctcccagt actttaccaa aggaaccccc ccgcccagga     1680
cccacatggg gccacgtgtt ggcagtggaa tcagcctgtg caggctgggg atctcaggct     1740
gatcagtagg ggccagcttt ggagccagcc aagctgaatc ccacactcca ggtctgtgct     1800
caagagacca gatggtgtat ttccaaatgg gcctctctgg tatgggcaat aggcaagctc     1860
ctggggtctg gttatgtgga agattcttag tggatgttcc gcctggttag ctggttctct     1920
tcagagaata taaagtgaat gcctttaggg gtagctctga aagagaaacc caacaacttc     1980
attcctagcc atgaaagtag cacgatcata ttgtactgta ttgttattgt aaaatgatta     2040
tttgccatgt catgagtagg tagatgtttt gccacaaata tgaatgtgtt tgttgtttcc     2100
tgactttaag caatgaagat tgagacaata aatagcactc agagaatgaa gcattgatgt     2160
ta                                                                   2162


<210> 5720
<211> 277
<212> DNA
<213> Homo sapiens

<400> 5720
tggcttataa gcaacagaaa tttatttctc atagttctgg gcctgggaag tccaagatca       60
agacattggc agatttggta tgtggcaaga acccactgca tagctggcca cctctttgct      120
```

2650

```
gtgtctatgt ggtgaaaggg cagagggagt tggaaggcac taatcccatt cctgaggact      180
ctgctcccat gacctaatca cctcccaaag gccccaccac caaataccat cacattggag      240
atgaggtttc atcatatgca tttggagaga gcacaaa                              277


<210> 5721
<211> 369
<212> DNA
<213> Homo sapiens

<400> 5721
ttttatacaa gactaaagcc tgtagtctac agagcgcctg tgctgtggaa ggagatattt       60
gttctggcca acttactaaa ggagcataga tgttcttggc acggggtggt gatatctttg      120
cttcattaat cttactgctc catcccaaga atccctgaag ttttaaacaa cttctgcaag      180
aagcattctt ccagtagtaa tgtaaaacaa aaaaccaacc aagcaacagc aaaaatgcaa      240
agcagagaaa tatgtggacc gtccccagtg gagatcagct tgaaggaggg ggtggatctt      300
tcttctactt tccctcccat cacccactgg gtggtcgtct gctcagctta tttcttcttt      360
atgaacttt                                                              369


<210> 5722
<211> 19286
<212> DNA
<213> Homo sapiens

<400> 5722
gccgcgccgc gccgcttgcc gccgggctag cactgacgtg tctctcggcg gagctgctgt       60
gcagtggaac gcgctgggcc gcgggcagcg tcgcctcacg cggagcagag ctgagctgaa      120
gcgggacccg gagcccgagc agccgccgcc atggcaagtg agtcctgtag ggaagcccta      180
ttgaggccgg gacggaacag atccccctтc cccacacccg tgcggtcggg cgcccgccgg      240
ccaaccctga ccggcccccct gcagaacgcg gcccgtgccc ccggcccttc tcgagtatcc      300
ccacgcgtcc ggggtgcggc cggctcccct ggccctgct ctcactcgtc gtgggcagaa      360
ggcgtccctg ggtagcgcgg aaggttactt ctctgtgtcc caactcttcc tgttttgttt      420
ctcccatcaa agtcaaattt ctggaagtca tcaagccctt ctgtgtcatc ctgccggaaa      480
ttcagaagcc agagaggaag gtaagtaccc caaatcgcca acaaagaagg tttcaggaaa      540
ctgtctggac tctggaagtt tacagtatga ttaaaaatgg cttcagcacg gcaatggaaa      600
ctctccctтc tcttcccttg gagtgtagtt gtgctctgtt attccggaga gctgtcgaaa      660
ggtgacctgg ttgtgtggaa atttccactg aaatcactgt gctttatttg gagcatcttt      720
ggtggatgtt gctccgagaa caaagcctcc ggttgccctg tcccaaaaat ggatccgggc      780
catgaatgaa taaggcctca gttaggatag cagattgagt taccctccct ttttcacctc      840
caacgggagc agatcacggg ttggtttttt ttcccaggag atgccctttg tatccagctg      900
ctaaagggaa gggctgtcac tttagtattt acaaatgatt ttgtaccttt tatgtaggct      960
gtcacaatag ggggaataaa ggctattctt ttgtgaagtc tgctgctttt cacagacggt     1020
gtattaaaac aaggaaagat taaatttaga gctgtgctga atcagaaatt gtgtggagtg     1080
agtgttgcca gtgtaactac agctgtcaac gaaaaaaagt ttcattaggt tcctaggtta     1140
gagagtgggg aataaaatgt ttgtgtcctc acattatttt tcaaactgtt gttaaagcat     1200
tcacatggac acttgggtgc ttggaatcca cttтcatttt tttacgtaaa atagtttcat     1260
ataaatgccc atgtgctgct tttaatggac gaatttgtaa agctttaccc cctcaattcc     1320
agtgtagcga aggggcatgg ctctggaggc aggcaagcct aggtcccacc ctttacatag     1380
caccttaata gctatgtgac cttggccttg taactcagtg tggtagacgg aacaagggaa     1440
atacgtgcaa ggtatagcag tggctcagga agggattaac tctgggagac atgatgtctt     1500
atggtggttt tgaaggagaa atagaagtct ccttgaaggg acggaaagga attccaaata     1560
aaaggagtat atagtttgca aaggcattgg tgacaagagt gtagcatgtt tggatgggag     1620
gttattagat gtagttgcta ttgatagaac ataattgtag gtggggaaca ttaggagatg     1680
aataacaagg gccagacatg agaatgtcac tttggaagaa aaggagagga ctagagttgg     1740
tttagaggct tttcacatca gaggatgaac tgtggtactg agcaagaatg gatttagggg     1800
ctactaagaa gcagaggaga caggacttgg ataaagagct tttggggttt tgatgttaaa     1860
tttgattgta accaggagag aggacttggt gattagaaag ggagttttga aaaaattgtc     1920
tgctctttgt ttcccatcaa gattcatttc agacaggtta ctctgaaatg gcgttgcctt     1980
ctcttggcca ctttctaatt tcttagtgtg gtgggatggt aggtgggaag aggaccattc     2040
tcaagagaag aagagtcctg tgaatgcccc cagctttgga tggagtatct gaacactgat     2100
```

                                    2651

```
tcacccactg ttgtgtggcc gtatgactgt gtcctacttt gcctgcatgt atagttagag   2160
gactgtgact ccagttctgg ccagagggcc aggaatgctg actcagtgcc tgcctagaag   2220
tgttttaaa gaacacagtt ttgtcactta atactgtcag tctctcacaa ggtatttcaa   2280
cctcagaatc ttccgtctgt acaataatta atgtttgtta agccctctaa agccattaat   2340
gtagtgtagg cagcaggtat tagtgaagac actcagtttc agaggcagaa aacctggaag   2400
agttcccact ctactcttta gtgacagagg ttttgggtgg gaggtttct aatgatactt    2460
aatacttaat agtcatcttt acagtgattc ttgtcaccta tgcaacctat gtacctgaga   2520
agatgtgaaa atccttaaac aaatgttact agtaggttaa acatgcaact ctcctgccct   2580
tccccaatat ggtttattac actgtttac ccttaattca tagaaaatac actattgagc    2640
aattccaaat tacttgactc tagaataaca aggttttgtg actgaaactc aaatgaaaag   2700
tggttgctcg tgtgttttac aagtcatgtt ctattgtgac attctttgtt cttgagtctt   2760
aactgttaat gctaatggtt aaaagcacag tttgggactc aaactcactt tagcattggg   2820
gtttggtaca aattatttag ctcttctaag gctcagttgt aaaataaagg taatgctctg   2880
tggtgtgagg tgagctgggg tgatgcctgt aggtccttgc attgtgctct gtgcagagga   2940
agttacgcag tacatggtac ttatgtttgg tacatggttt ggcttctctg ctgaacagag   3000
aaaagagtct ggttggagtc cattttaga gaaaggggtc tgattggagt ccattttat    3060
taatttgctt ttcaaagtaa ctccctgctt caattcattc tctcctactc tagattcagt   3120
ttaaggagaa agtgctgtgg accgctatca ccctctttat cttcttagtg tgctgccagg   3180
taagctcagg cttgtatttc gtattgggga gggggataag agtggctgga aacaggagtg   3240
ctgactgttt tgctctttgc ctgttcccag attcccctgt ttgggatcat gtcttcagat   3300
tcagctgacc ctttctattg gatgagagtg attctagcct ctaacagagg taggactctg   3360
gctctgtctt ttctctgtag agtgtaggct tacctagctt cacttagtta aattaatagg   3420
ctttggcttt atatggaact tagagagtga cttggaaaat agagtgaaga atgttaaagt   3480
gctgtgttga atagccttat taaatgctga gttcagcacc aaggcatacc atcatatttg   3540
gaattgtatt tgaatgcagt acaaaacctg taatgagaag ataagtctat gctatagaga   3600
gaataaaaaa catggaaaaa ctagaatact ttttgaatac ctgaaatgat gacatttcca   3660
ttgataacat tcttcagaat atgtaatttg tttttcagct gtatcttttt catatctata   3720
ggttacatat agtgtcaaaa aatatgtaac agtgttttat atcctctaac cagttactta   3780
tgggactggg gaggattctg aatgtgtagg ttgatactgc atttgattaa ctcatttaaa   3840
aaatatagtt caattaaatt ccaaatcagt tggaagtgta gctcatttta acataatggg   3900
aagtagaggc ttattcacaa ctagatacaa ttgtacaggc tccttttcca gactctggaa   3960
attatttgaa tgttatcctt tttttattaa ctgatgaaga gacgaacatt tcttatctct   4020
aaaaccagaa tgaatctgtt tatggtgaat ttaaatgcag cagtctgttt agacaccatg   4080
tgacttccta aacagaataa gctgttgcct ggcaggctga acagaatgaa ttgaattata   4140
tactaatcgt tgatattttg gggttctaaa ttaaacacag ctaggaaact gaaacacatt   4200
ggttttatat aagggggtacc cagtcaaatt ttgcgtattc attttaaaa taacgtacta    4260
cgtttccaag ctgatattga ctgttttgct tccccgtttc ctcaaggcac attgatggag   4320
ctagggatct ctcctattgt cacgtctggc cttataatgc aactcttggc tggcgccaag   4380
ataattgaag ttggtgacac cccaaaagac cgagctctct tcaacggagc ccaaaagtgt   4440
aagaaagatt gtgaataatc tgatgtctat agttggaaaa tttgaatttg ctataagatt   4500
ttggtatcag ttttttcttt tttatttatt tttatttttt tttttttttt ttgagatgga   4560
gtcttactct gttgcccagg ctggagtgca gtgacgcagt cttggctcac tgcaacctcc   4620
acctcccagg ttcaagcaat tctgcctcag cttcccgagt agctgggatt acaggcacgt   4680
gccaccacac ccagctaatt tttgtatttt tagtggagac gggatttcac tacataggcc   4740
atgctggtct tgaactcctg atcttgtgat ccacccgcct cggcctccca aagtgctggg   4800
attataggcg tgagccacca tgcccagccc aaacagtatt ttcttttgtg ctgcaacctc   4860
cttggcctgc caaccctgca ggagctccat gccctgtgtt agcgtgagag agcacttctg   4920
gtagagcaga ggtggtgggt gctggggatg ggctgggcaa ggcagggggag agtgtctgga   4980
gtgcccctga ggccatgtaa tggaggagaa ggatcagagc ttggaggtct tagcaccctt   5040
ggccaccatt tcattattgc ttaaaaggaa gtaatggcta cttcagagct gtcataagga   5100
ttaaataatc actgtcacaa tgcctggcac atagtagtta tttggcaagt gttttataaa   5160
agaatttaac tgactggggg gcggtggctc acgcctgtaa ccccccagcac tttgggaggc   5220
tgaggcgggc ggatcatctg aggtcaggag tttgagacca acctggccaa catggtgaaa   5280
ccccatctct actaaaaaaa tacaaaaatt agccaggcgt ggtgacaagg tgccttaatc   5340
ccagctactt gagaggcaga ggcaggagaa ttgtttgaac ccaggaggca gaggttgcag   5400
tgagccgaga taaagccatt gcactcaaac atggggggaca gagcaagact tctctcaaaa   5460
aaaaaaaaga atttaactga agaaaggtg atcctgtcag tccagctgta taatttacca    5520
gctctgtgat ctggggaaaa gttagatgat agctcttatg tttcactttc ttcatctgta   5580
aaaatgggga taataatggt atttgcctca tatctaataa gtgttactag taacaattac   5640
tagtcatcaa aattagccat atttagcctc tgtttgctga aaaacattaa ttaggaaatg   5700
atatttacag tctcctatcc agtcatcttt tcgcctacac cagcatgttt tacaggtctt   5760
```

2652

```
aaattagtat ggtggataat tgaatgagaa atacgtctat tttttttttt tttttttttt   5820
ttttgagacg gagtctcact ctgtcgccca ggctggagtg cagtggcgtg atcttggttc   5880
actgcaagct ccgcttcctg ggttcaagcc attctcctgc ctcagcctcc caagtagctg   5940
ggactacagg tgcccgccac cacgcccagc taattttttg tatttttagt aaagacgggg   6000
tttcactgtg ttagtcagga tggtctcagt ctcgatctcc tgacttcgtg atccgcccgc   6060
ctcaggctcc caaagtgctg ggattacagg cgtgagccac agcgcccagc caagaaatac   6120
atctatttaa acttgtcagt tttagataaa aattaggatt ctaaaataca cacatgtggc   6180
tgggagcggt ggctcatact tgtatcccag cactttggga ggccaaggca ggatgattgc   6240
ttgaggccag gagttcgtga ctagcctggg taacacagtg agagagaccc catctctaca   6300
aaacaacaac aacaaattag ccaagtgtgg tgatgcacct gtagttctag ctactaggga   6360
ggctgaggtg ggaggatcac ttaagcccag gagtttgagg ctgctagtgc accactgcac   6420
tcctgcccgg gcaacagagc ctgtctctta aaacaaaaca aaaaacacta agaaaacaaa   6480
aaaagtacaa gcacaaattg gctgttttct ctttggtctt cacaatgttt tgaatgtttt   6540
cctgcattaa gaactaattg ttgtggagca cttttaaaa agtcaaatag ggactgtatt   6600
tgatggccac tttggagtaa aattaatttt acatgacaga ttaaatagga aagctgaaac   6660
tgaaggtcag actgtactta gaggacccat ctagtactgt ggaacttgtc aaatgtgtcc   6720
attcccttgt gcctaacagt gaaatagagt gagttgtaag aaatgaagac accctacaaa   6780
aaggaaagct tttgccaggc gtggctcatg tctgtaatcc ccgcactttg ggaggctgag   6840
gtgggtggat cacgaggtca ggagttggag accatcctgg ctaacacagt gaaaccctgt   6900
ctacactaaa aatacaaaaa attagctggc tgtggtggca cgtgcctgta atcctagcta   6960
ctccagaggc tgaggcagga aaatcgcttg aacctgggag gtggaggttg cagtgagcca   7020
agatcatgcc accgtactcc agcctgggcg acagagactc cgtctcaaaa aaaaaaaaaa   7080
ggaaagcttc tattagacca aaatagcttg gtacctaagg gaatgggaag agcagccaaa   7140
tcaatggtac gtggggtttt cctttaaaa gcacattaaa taaaaacttg agaagggatc   7200
actttacccc agagctaata attctgtcct ctggacccag acctggatgg tgagcctaga   7260
gaggtggccc aaatctgtag ttcagctctt gagccatcga gaccccaagt gcctgacatt   7320
gagtttgggt gctgcaggtg tgacatctcc agattgtgtc tccggatgct gtcaggagta   7380
ggttctactc cctgattttc tttgaataga acaaattttc caagtttcac ttttactcct   7440
cccatgacta aaaagcaagt gaatctagga aaaggtaaaa ctaaagaaga agtgtgcttt   7500
tgttaaaagg cttttgattc atcatgtact ttgctgatgt gatggtttag cgcgttctca   7560
gccgagcccc ttggaggtag tatcactgct cttcatcttt gttctccccc gtgcctggcg   7620
ttgaattggt gtttcttaat tgtttctttt gttctgtgta gtgacccact tggaaaacac   7680
ttctttcttt caattctagt atttggcatg atcattacta tcggccagtc tatcgtgtat   7740
gtgatgaccg ggatgtatgg ggacccttct gaaatgggtg ctggaatttg cctgctaatc   7800
accattcagg taattattat gctaacatct ccctttgagt agcccctcac acttacctac   7860
aattctcaca taacgaatct caagcacacc taaaaggaac tcctactgaa aggaagcaga   7920
agcctaagac tctgggttag ccctctgaat tcagcagaga aaggctttac tgaccgctct   7980
ctggggctga ggatgtgatc tcattccgtc ttcagcgttt atatcagaga acccaattac   8040
tgaaggacgg aaccatgtcc gtggggagca gtaacacata gtcttgtatt tttgaatttt   8100
tacagctctt tgttgctggc ttaattgtcc tacttttgga tgaactcctg caaaaaggat   8160
atggccttgg ctctggtatt tctctcttca ttgcaactaa catctgtgaa accatcgtat   8220
ggaaggcatt cagccccact actgtcaaca ctggccgagg taagggccct gtgctcccct   8280
ggtggcgaca gctttcagca aaaacaattg agcaatgcaa agcagaagac aaaaatcccc   8340
ccattccaca gaaaaataat gtcagtttta ggtttatctc ttctggtgtt tgggtccatc   8400
tgcaaagttt taaaaacaca aataggcttg taattatgat gatacctaac ttgcactttt   8460
catataaaaa tatctcctgg acgtttggca cgtcagaata cacaatcctg cctcactttt   8520
cttagcacag tataagctta tattgcaacg ataaagcaac gttaagtcat ttccaggttt   8580
ttttatcgtt aacattgaaa ccatgactgt cctcatatgt tcatctttgt atattttggc   8640
agctgctctc agtgaataag tttctaaaaa tgaaattcct aaaccaaagc acttggtcat   8700
gcaaggggca gctttctgaa aaaggcctga acttggagct tagcacctgc gttcaaatcc   8760
tggctgttcc tgttagtcat acatacgtgg ctttgggcag attcctgcac cactgaatct   8820
tggttaccag gatgcagtga gaagcaacat gaaattacat gatgcctggc tcctggtaga   8880
tgtgtatcaa acattggcat gctgtgctac atccaccaag tgccgtggaa atcttgtaac   8940
agcatgtttt taataaaaag ttcaaaacat acaagggaag ccttagagag tgtgacttat   9000
tagggaaagg aaataaacat tttttggcac taaatatctt cttcactgag gagcattcca   9060
ggagaaataa tcatgcatat ttgagagttt tcttttaatt gaatgttgga aacagagtcc   9120
ttggcctcca gagaccatat tatctcatta atgagatgga aaactggtcc ccaaacaagt   9180
gaaggctgca tgtgcctaac aggttacaaa ggagagtgga gcttgagata gggagccata   9240
gagaagagtg ggcaagatca catttgatgc ttccttgagt actttgtata aatttaggaa   9300
atccaaggta aattgggaga agcaggtcca gaaggcaaag tttgacagga tgtgaaaagg   9360
caagaggggg atggcattgt aggagttcag gtatttgtca agaccatcat ggtgactggc   9420
```

```
ttttggggag tgcctgagtg ggaaggaagt aaagtcagag gggagcccct ggtggcttag  9480
cagcccagta gtagccgcca gaggctcatg ttccattctg cagcagggca ttgagtaatg  9540
ggagccagag tttggaagaa gtgatttgct ctgcactgaa aggcagagag agcagctagg  9600
tgcgtgcagc agtaatccag ccccaattaa gccatcctac aggagagcac tgtgtgaggg  9660
catttggagg aagcaagttg agagagggga ccagagaggc actttcaagg tgggggaaaa  9720
ctaagaagca aaggtggatt tgtctggcct tgaagtcagt gtgtctacat gtcagttgct  9780
cgtgtttggg acctggctga cacgagatgc attcaggaag ggctgtgccc catggcctgc  9840
atgtgggcag tgagtggtgc tagagggaga gcctagggag gggcagggag agccacacag  9900
agggcacagc tgggacggca gctttgcagc tgtgcctgga gatgttgcag cttggcttgg  9960
gacaggggag gctgttgaat gagattctac aggcagagac agtaatcact gctgcttccc 10020
tgggcagcag gaacaatgca gaactgggaa ttagtcccaa atttgaaacc gtggggaaac 10080
aggccagcct tgtcacacag gaccaaaagg tggaaggat gggaattgac gaaagaccgc 10140
cacagggtga gatgaggaca tgatggccag ttaggatatg gtgtctcttt cacagaagcc 10200
acagcagagg aggtcagtgg tcatattggt tagatggtct gcctgacatg tcatctcgga 10260
atggtccagg aagatgtagc aggtggtcct agctatcacg tgttagaaac ttgggaacag 10320
tgcttttgag ttctttagtt tcaccttttc ctagattcac ttgcttttta gtcatgggag 10380
gagtaaaagt gaaagttgga agatttgttc tatgaaagga aaatcaggga gcagaaccta 10440
ctcctgacag catccagaga cacaatctgg agatgtcaca cctgcagcac cgaaactcaa 10500
tgtcaggcac ttggggtctg gatggctcct gagctgaact acagatttgg gccacctctc 10560
taggctcacc atccagatct gggtccagag gacagaatta ttacctttgg gttaaagtga 10620
tcccttctca agtttttatt taatgtgctt ttaaaaggca aaccccacat accatcagtt 10680
tggttactct tcccattccc tcagctacca agttattttg gttgaataga agctttcctt 10740
tttgtagggt gtcttcattt cttacatctc actctatttc actgttaggc acaagggaat 10800
ggacacattt gacaagttcc acagtactag atgggtcctc taagtacagt ctgaccttca 10860
gtttcagctt tcctatttaa tctgtcatgt aaaattaatt gtactccaaa gtggccatca 10920
aatacagtcc ctatttgact ttttgttgtt gttgagacgg agtcttgctc tgtcacccag 10980
gctggagtgc attggcgcca tctcggctca ctgcaacctc cgcctcccgg gttcaagcag 11040
ttctctgcct cagcctcctg agtatgggat tacaggcgcc cgccaccatg ttcggctaat 11100
ttttttgtat tattagtaga gacaggggttt caccatcttg gccaggctgg tcttgaactc 11160
ctgaccttgt gatccgcccg cgtcagtctc ccaaagtgct gggattacag gcgtgagcca 11220
ccacgcccga ctcctatttg actttttaa aagtgctcct cagagtactg ataccatgac 11280
cccacactgc ccacagagac cctgtctctg gaagtaatgc cagcttcctg ccagtagaag 11340
cagcgtgagt tgccaggctt ccattatggg atggttatgc tgtcctggaa cggcagaggt 11400
tatcacttgt ttctttttt cgcttttag ttttttaacg taagtaaatt tcttgctgat 11460
gtctaaaact taggccttaa taatgcacca cactccccgc cttcctctca cttgttactc 11520
tgttgtctgg ttcttagatt gggtcccttt cctatatccc tcagtccctc agtaagctca 11580
ctccacccct aggcctgcct ccctcaggag catctcctgg cagggtgtca tttggatggg 11640
accacatggt ggacgcaagc atatcctctg tacttgtatc cttggtgtga gaagcagaga 11700
gctggagcct ccccactcac cagccaaggg cagcctgcac ttcatagctg ttgaatgggt 11760
acttgtactt ctcaagattg tccaggaaag tagatttgcc agctctgagc cccctcttca 11820
gtggatgacc cctttcagct agagttcagc agagtctgct tttatttta taaattatca 11880
tcgttccaca cctctggtgg ccactgactc atgtgcctaa gaaatgagac caattaattt 11940
taaaaagtgg aatagtggtt gggtgctgtg gctcacacct gtaatcccaa cactttggga 12000
gggtgaggcg ggaggattgc ttgaggtcag gagttcgaga ccagactggg taacatagtg 12060
agacccccaa ctgtacaaaa ataaaaaata aaaaattagc caggcgtggt agcatgccta 12120
tagtcccagc tattcggaag tctgagatag gatcacttga gcccaggagg agaaggttga 12180
ggctgcagtg agctgcaacc acaccactgc actctagcct aggcagccga gagagaggga 12240
ccctgtctaa aaaaaatcaa aaacaaacca gaatagcccg tttctgtagt ttgaattctc 12300
tacagaagag aagggaggga tgagaataat acatgctgta tccctgtggc tatgggcacc 12360
atgagtctaa taacttaagt ttgttttcct ctttttattt gtctgctaag aaggctagaa 12420
gcaaattgag ttgcctgttc gttccttcat atatgtctcc tcctctgcca acaggaatgg 12480
aatttgaagg tgctatcatc gcacttttcc atctgctggc cacacgcaca gacaaggtcc 12540
gagcccttcg ggaggcgttc taccgccaga atcttcccaa cctcatgaat ctcatcgcca 12600
ccatctttgt ctttgcagtg gtcatctatt tccaggtgtg tccagatcca accccaggga 12660
gtttccatgg tctggattta agtttcagaa tgccttgtgt gcagtccccc actctgtggg 12720
gtgcactgtc atcatattgt gttgaaacga tgagatggta tttgaaggca gcaggtttcc 12780
agatgagctg gacaagcatg ttcattgagt catgggacct gccattaacg aaacaaaatt 12840
aaggcagttc taacgtaagt gaaatcatgt tcttctgggt tgggcctatc gacaggtaag 12900
atacattttt aagttcttag ttcaagagaa gcaaaaagta ctctagctct gaaacctcat 12960
tgctctctta tagaaagttt gtatgatatt tataggtaac ttctgcatct cggaaacggc 13020
ctatcttctt aagctgtctt acctttaaaa gtattccatc tcttaaactt gcttctgagt 13080
```

2654

```
aagagacctg aactgctatt gttttcctgt aattggattg atctttgtat tttttgatgg  13140
tccactttgt attttggtgt ttatttaaaa gaagggacag agatgaaagg cagtttgatg  13200
tttgtgaaag gtatttatac gagctacatg cttttcccat tccttctgct gagactaagc  13260
cacattcttg cttaataaaa agctatctct ttaggggctt tgccagaatt tgcagtcaga  13320
tcattaagaa ttttttttttt tttttttttt ttgagacgga gtcttgctct gttgcccagg  13380
ctggagtgca gtggcgcgat ctcgactcga ctcactgcaa cctccgcctc ccaggttcaa  13440
gcgattctcc tgcctcagcc tcccgagtag atgggattac aggtgcctgt caccacgccc  13500
ggctaatttt tttttatttt tagtatagac agggtttcac cgtgttagcc aggatggtct  13560
cgatctcctg acctcgtgat ccgcccgcct ccacattaca aagcgctggg attacaggcg  13620
tgagccaccg cacccggcct taagtatttta attttaaat cctctgtatt ccgagccctg  13680
ttctaggtac tgggagctca taaaaataaa ccctttctag tctccagggg tttcagaggg  13740
agaagttgta ttcctagaaa agtttagctt ttctgtttat gattaaaaac actgtaagga  13800
actattataa ggtgtgaggc cactgctgta gtggccctgc ctcagagcca gtgtaaaagc  13860
ttaggaaaca tcaccagcta gagagaagcg cccttgggat ttgggtgtgt ggcctccagg  13920
cttttctcca tattccacac agatgtggat gtaatgtgat aggctctgtc ttttggaaaa  13980
aaaaaaagtg ggggtgggga tcattccacc gtgcttgctt ccatgttttg ttttgtgtga  14040
gacagggtct cgttgtgttg cttaggctgg aatgcagtgg catgatctcg gctcactgca  14100
gcctagacct cccaggctca agtgattgtc ccacctcagc ctcctgagta gctgggacta  14160
caggcgcgca ccaccacacc cggccagttt tgtttatttt ttgtagagac ggagtctgac  14220
tgtgttgccc aggctggtat cgaacttctg ggctcaagca attctcccac ctcggcctcc  14280
caaagtgctg ggattacagg tgtaagtcac cacgcctagc cttcagtgta tttttaaacc  14340
agcttttctg ggccccttct ggatgtgcca agtgcaggag tgcagtggtg ggtaaggagt  14400
gggcacaagc tctcggaact gggagcccca gaaccagcac acaggatttc ctcccttgtg  14460
gcccactgga cagtccccgg ccgggctgtg tttctgtgca gcaggctgaa atgaggcagt  14520
gaaggggatt tggttctgtt tggcttctca gggcttccga gtggacctgc caatcaagtc  14580
ggcccgctac cgtggccagt acaacaccta tcccatcaag ctcttctata cgtccaacat  14640
ccccatcatc ctgcagtctg ccctggtgtc caacctttat gtcatctccc aaatgctctc  14700
agctcgcttc agtggcaact tgctggtcag cctgctgggc acctggtcgg taagtaggct  14760
ctttgaagat gagctagcaa tgcagctaag ttgcagtggt ttctatcagt gtcttgctca  14820
tgaacagata tttcatccaa agatatttc cattgtgcct tttacaaatt cagcacatta  14880
aattatcttt tcagtaaaaa aattgtactg tgggcaccga gtaaaattgc attctttcat  14940
ctgctcagaa ctattttgc cttgatgcta aagtaaaatg aaggagcact cacatgcgtt  15000
tggtttcttc ttccccagga cacgtcttct gggggcccag cacgtgctta tccagttggt  15060
ggcctttgct attacctgtc ccctccagaa tcttttggct ccgtgttaga agacccggtc  15120
catgcagttg tatacatagt gttcatgctg ggctcctgtg cattcttctc caaaacgtgg  15180
attgaggtct caggttcctc tgccaaagat gtaagtagaa gcaaaacttt ctggaagggt  15240
gatgaaagtg tgactggtat aaggggtgtg gacttgtcac ctcatcataa ataatggtct  15300
gtgacgtgtg cagatagatc gtcgtccttt aggggcagt tcagaagctt taagggctga  15360
cagatggagt ccagcagtag atcagctgtg ggtatgagaa tctgaatcca cactgtaaag  15420
ttagactttt tcatatgact tccttgcggc agttttaaag ttctctgtat gaatattgtc  15480
agtgctcgaa gaggcgatct gtaactgttc agtaccactt ggaatgccta tttccccttc  15540
agcctccaat tccaacttct cccctgtggg caccctgcag gttgcaaagc agctgaagga  15600
gcagcagatg gtgatgagag gccaccgaga gacctccatg gtccatgaac tcaaccggtg  15660
agtggtggcc ccaggtcccc aacctcccgt ctgtggacat gtgttgtttc tttccatgca  15720
gggcatcctg ataggcccta gcacttactg ggtcactaaa tcttatcctt gggttacagg  15780
acagaattaa atgttatata tttataaact tgctaagtgc tggacactgg agacgtaaaa  15840
ataaacactt acagcccctt tcctccagag ggagccactg ggtaaggaga tggaagcatg  15900
tggccaggcg gataggagac agtgcagtaa gggtcctgag agcaacagct gtgactggca  15960
gcgggaccct caccctggct catgccggtg gggtgctgaa gagagcgccc tggaggaggg  16020
tcactctgag ctcagagcag gcaggtcctg gcatctgagc gcattttggg gcctgtggtg  16080
gcattaaggc tagagaggct ggcagtggct gggcacggaa ggggttgatg tgcatctgaa  16140
gcagggcaga agggatggag cctgcagtct cttaggaagg tcagtgctaa tacatgaaac  16200
cacgctagag agggagaggg ggaggccaca tacctgccag gctgtggtga gagtttgggc  16260
cagaggtgat ggtgccagat acagctgtac ccttggagat ggagcagtta ggtaaggaag  16320
ggcaaagtcc aggtgacctt agatgctgcc acagcactct tcagtctgca cagtcctcag  16380
tacaactact catctcttcc atcgtcactc agaagcagcc acagacagac aacagacaaa  16440
tgagcatggc cgtgttccta caaagctggc tacaaagtca gctgcagacc aggttgtcct  16500
atgggcctta cctaaaggaa gcaaccacag gaaaagccag aattgcaaac ttcagatcat  16560
tttctaatcc ctagcaggga tggtaggcaa tttagttcat tctcttaata ttaagctgct  16620
ggatttacag cactgtgcag tagaagtaga attcaagtca catgtagttt ttaaaatttc  16680
tagaagtcac attaaaaaag taaaagaaa caggtgaaat taaatttaat atatttaacc  16740
```

2655

```
tagtatatcc aaagtatcat ttcaacatta taattaatgt taagaaaaac catgatgaaa    16800
tattttacat ccttgtcttc aaatctccaa aatcttatgt gacatctcag tttggtctag    16860
tcacagtccc ctggccacgt gtggccagtg tggccactgc ctggacagca gcgccttggc    16920
ctagagcgct agcatgttag tagatgactt tctaggagac agcagagggg cctttgaggc    16980
attaggtccc aaagtctcag gtgagcctgt tggccgcctg gctcacgggg agctctgtgg    17040
gtgtccagga gctgactgtg tcccctcccc caggtacatc cccacagccg cggcctttgg    17100
tgggctgtgc atcggggccc tctcggtcct ggctgacttc ctaggcgcca ttgggtctgg    17160
aaccgggatc ctgctcgcag tcacaatcat ctaccagtac tttgagatct tcgttaagga    17220
gcaaagcgag gttggcagca tggggggccct gctcttctga gcccgtctcc cggacaggtt    17280
gaggaagctg ctccagaagc gcctcggaag gggagctctc atcatggcgc gtgctgctgc    17340
ggcatatgga ctttttaataa tgttttttgaa tttcgtattc tttcattcca ctgtgtaaag    17400
tgctagacat tttccaattt aaaattttgc tttttatcct ggcactggca aaaagaactg    17460
tgaaagtgaa atttttattca gccgactgcc agagaagtgg gaatggtata ggattgtccc    17520
caagtgtcca tgtaactttt gttttaacct ttgcaccttc tcagtgctgt atgcggctgc    17580
agccgtctca cctgtttccc cacaaaggga atttctcact ctggttggaa gcacaaacac    17640
tgaaatgtct acgtttcatt ttggcagtag ggtgtgaagc tgggagcaga tcatgtattt    17700
cccggagacg tgggaccttg ctggcatgtc tccttcacaa tcaggcgtgg gaatatctgg    17760
cttaggactg tttctctcta agacaccatt gttttcccctt atttaaaag tgattttttt    17820
aaggacagaa cttcttccaa aagagaggga tggctttccc agaagacact cctggccatc    17880
tgtggatttg tctgtgcacc tattggctct tctagctgac tcttctggtt gggcttagag    17940
tctgcctgtt tctgctagct ccgtgtttag tccacttggg tcatcagctc tgccaagctg    18000
agcctggcca agctaggtgg acagacccct gcagtgatgt ccgtttgtcc agattctgcc    18060
agtcatcact ggacacgtct cctcgcagct gccctagcaa ggggagacat tgtggtagct    18120
atcagacatg gacagaaact gacttagtgc tcacaagccc ctacaccttc tgggctgaag    18180
atcacccagc tgtgttcaga attttcttac tgtgcttagg actgcacgca agtgagcaga    18240
caccaccgac ttcctttctg cgtcaccagt gtcgtcagca gagagaggac agcacaggct    18300
caaggttggt agtgaagtca ggttcggggt gcatgggctg tggtggtgtt gatcagttgc    18360
tccagtgttt gaaataagaa gactcatgtt tatgtctgga ataagttctg tttgtgctga    18420
caggtggcct aggtcctgga gatgagcacc ctctctctgg cctttaggga gtcccctctt    18480
aggacaggca ctgcccagca gcaagggcag cagagttggg tgctaagatc ctgaggagct    18540
cgaggtttcg agctggcttt agacattggt gggaccaagg atgttttgca ggatgccctg    18600
atcctaagaa gggggcctgg gggtgcgtgc agcctgtcgg ggagacccca ctctgacagt    18660
gggcacacgg cagcctgcaa agcacagggc caccgccaca gcccggcaga ggggcacact    18720
ctggagacct tgctggcagt gctagccagg aaacagagtg accaagggac aagaagggac    18780
ttgcctaaag ccacccagca actcagcagc agaaccaaga tgggccccag gctcctccat    18840
atggcccagg gcttaccacc ctatcacacg tggccttgtc tagacccagt cctgagcagg    18900
ggagaggctc ttgagacctg atgccctcct acccacatgg ttctcccact gccctgtctg    18960
ctctgctgct acagagggggc agggcctccc ccagcccacg cttaggaatg cttggcctct    19020
ggcaggcagg cagctgtacc caagctggtg ggcaggggggc tggaaggcac caggcctcag    19080
gaggagcccc atagtcccgc ctgcagcctg taaccatcgg ctgggccctg caaggcccac    19140
actcacgccc tgtgggtgat ggtcacggtg ggtgggtggg ggctgacccc agcttccagg    19200
ggactgtcac tgtggacgcc aaaatggcat aactgagata aggtgaataa gtgacaaata    19260
aagccagttt tttacaaggt acttga                                         19286
```

<400> 5723

```
ggctgctggt cctgcctgca ggtacttctg ctaggacgt agctggggca aggaatgagg      60
agtctaggga aacaggcccc accccggag cttcccttg ctgcccttgg ctcaggggca     120
gcacccgctt caactggcac tccgctccat ccatggtgct gctttaccac tgcctccctg    180
gacctgctga tgccctaccc catacccgc ccccagcctg ctcctgctga agccaggcca     240
gcatgaagtc ctcaggaagg ctgggatgag cctcccatct catttctgag gggtctgagc    300
cccatggcct ggggaagagc aacggattcc tgatgagggc caggggatgg gcatgtggca    360
ctgtccgaga gtcagcaaaa gccccaacct gagcttcagc acctaccaat gcctggttct    420
ggagagccag gtgtgcccct aagtggtagt gcccacctca ctcccctgcc ccaatccctt    480
ctagggccac attacccact cctttccact cagcaaacat tattgagcct catggggaaa    540
tggaacagaa ggtgcctctc ctcttaaaag ctcatgcccc agcagtaagg gttctgcagt    600
```

2656

```
gtctgtcaaa cctgtgggcc ttgttccctc tgctgtctgc ctgacaagct cctgttcatc      660
cttcaaagca cagctcaata aggctagaaa catctaaatg cccatcggag ggggctgaat      720
aaattacagc agctcctccc tgtg                                              744


<210> 5724
<211> 435
<212> DNA
<213> Homo sapiens

<400> 5724
tttgcccaca acagtctcct caacctgttc cctcattcct tctcgccaga atctatcaag       60
gctcggcaca aaggtactct cccaggaggc cttcctgaat tcttctgtga ggcagactac      120
ttcccgagct gccccggccc ttctccggcc aagtctctcc agaaactcat cccattcgtt      180
ctcagatgga aggggaccca cacccacgac aagcctccgg gtttgcttaa tgactcagac      240
agcgagggtg ctcggtaagc cccaccagcc cgcgccctac tcagcaggta atgacggaga      300
cctactaggt gacgggcgcc gcggtagacg ctgggataag gtccctgctc cagggagctt      360
acggtctatt cactaacgtc aaagagcagt gagtgctgtt acgtgtatgg gagccaccag      420
ggtctccgcc tgcct                                                       435


<210> 5725
<211> 6997
<212> DNA
<213> Homo sapiens

<400> 5725
aaaatatttt aatttttttcc ctcttgggct acaaaagccc ttaactttat attgtttcca      60
tgagagaata agttctcagg tacgtcctag ctttcaaaat gttgtgatga actactgttc      120
tatacaatag catcgataaa tctcaaagac tgatactgag tgaaagaagc cacagagaag      180
aatatattca actatggttc catgtatatg aaggttagga atagaaaaaa actaatctta      240
gatgatagaa atcagaatat tgggtaactt gaagagagca gtactggcag gaaaggggca      300
caagggagcc ttcttgggag tattatgttc tatatcctga tctggtagtt tgacaatata      360
tactaaaaat atatcaggct tacacttaag ctttatgtac ttttctgtat gtaaggtatc      420
actttaaaaa tattttaat atataaaaat gggcctaccc ttttaaaata ctgtattctg      480
attttttttt cttttttcttt ttctttttat tttttgagat ggagtctcac tccgtcgccc      540
aggctggagt gctgtggcgg gatcttgact cactgcaacc tctgcctccc gagttcaagc      600
gattctcctg cctcagcctc ccgagtagct gggattacag acgtgcaaca ccacacccag      660
ctagttttag taattttagt agagacaggg ttttggcatg ttggccaggc tggtctcgaa      720
ctcctgacct caggtgatcc acccgcctcg gcctcccaaa gtgctgggat tacaggcctc      780
agccacgaca cccggccctt ctgattttca aagtaatatt tagtgttggg aaaaagcaga      840
attatactaa gaataaaatt aaatcaacca taattttacc acctaagggt tgctactgtt      900
agtattttgt tgtatctcct ttggggtttt tcggtgtttt tagaggagtt gggaggagtc      960
ttactctctt ggtctgttgc acaggctgga gtgcagtgga gtgatcatag cccactgcag     1020
ccttgaactc ctgggctcaa gtgatcctct tgcctcagcc tcctgagtag ctgggactac     1080
aggcttgagc cactgtgtcc agctaatatt ttaaattttt tatacagatg ggggtcttgc     1140
tgtgttgccc aacgtggttt tagctcctgg cctcaagtga tcctctcacc ttggcctctg     1200
aaagtgctgg gattacaggc gtgaggcact gtgctcagcc atctatatcc attttaaca     1260
tgaattagat aactacattt tgctccactc cttttcactt aatcagttga ggttgccttt     1320
ttaaaactat gatacagtaa taaaattggt ctaaaaaggc agataacaga aaagggcagt     1380
tttatttctg tgacgttaca tatacctaac actggtttca tacaacttgc tccacaatgc     1440
cttttaagta ctaaacatat tcagaggtca gggctagaag ataacaaaat ctatttaaga     1500
gttagagctg agaagatttc agaagcttta taaaggcatg ccaggaaatg tctacaatat     1560
ttcacagctt ggaggaagca ggcaaaaaga aaatcaaaac aaagcttcca aatctttact     1620
ttgcacggag gggaaaccta tctcctgtga ttgtagttgt attttgttgt ataaattgac     1680
ataagaatat tcctgttgaa tcgtgatttt atccatggca gtgttttttc atgagttatt     1740
ttccttgtgt gtttgttgca gacccctgta aaagagccca acagtgaaaa tgtagatatc     1800
agcagtggag gaggcgtgac aggctggaag agcaaatgct gctgagcatt ctcctgttcc     1860
atcagttgcc atccactacc ccgttttctc ttcttgctgc aaaataaacc actctgtcca     1920
ttttttaactc taaacagata tttttgtttc tcatcttaac tatccaagcc acctatttta     1980
tttgttcttt catctgtgac tgcttgctga ctttatcata atttttcttca aacaaaaaaa     2040
```

```
tgtatagaaa aatcatgtct gtgagttcat ttttaaatgt acttgctcag ctcaactgca    2100
tttcagttgt attatagtcc agttcttatc aacattaaaa cctatagcaa tcatttcaaa    2160
tctattctgc aaattgtata agaataaagt tagaattaac aattttattt tgtacaacag    2220
tggaattttc tgtcatggat aatgtgcttg agtccctata atctatagac atgtgatagc    2280
aaaagaaaca aacaaaagcc aggaaaacac tcattttcgc cttgaatatg taaatgggat    2340
taattttgtc ctgtgcctta tgtggaaagg aacttctttg gttttccttt tttgttctgg    2400
tggaagcatg tgcaggagac atatcatcca aacataaacc attaaaatgt ttgtggtttg    2460
cttggctgta attttcaaag tagttaattg aggacaaagg gtaatgcaga agtgatagct    2520
ttggtttgct gagtcttgtt ttaagtggcc ttgatattta aaactattcc tgccaccatt    2580
tcttctcctt ggccacttct tccttgcgtc tccctgcatg ctgctttatt tgcttctccc    2640
tccccaacca cctcatggta tatttaagag tgaaagggac aaactagtag gtttgtcaag    2700
tttaatataa agcactgatg taacttgcta ggtaaacgga aagataagtt ctaactgcct    2760
actatccaat gtcagttaat tggtgtcttc cccctcatt tgctctcttc cctaaaatgt    2820
gtcccagatg cccttcatttg ctgttttact tctatgttct gcttttcctc ctctctttgt    2880
tcccttcctg tctatccatt gagtttatga aatggaagag ttaactgcat gcactagtgt    2940
ttggagggtg ttgtggtttg tctttctaat taggtgtata gcctattcac tttcctagaa    3000
taaatctctt aacctaaatt tgagtagtct gcattttggc aactcctcta gcagcttggt    3060
agcctagtac aggttgtttt tttaaaaaag gaaaagcagg aaggaggagt gaattttatt    3120
aacatgtttg ccaaatgtat tgagatttgg cctctgaaga acactttttc agtgttaagt    3180
ttctttacct taagattcag aaatacttta gaatattatt aattttaagt cctgtcttta    3240
catccttttg gaaaacttgt attaccatgg gtttggaaaa aggacaacga aaggcttttc    3300
atgtaaagat aagatcttta gctatctcta accctgtcct tttttcactg cattttttct    3360
agttttgctt cattgcttat cattaggata gggtaagtga agtttgctat gctgctagca    3420
tcctaagatg ataccttgt tgaaagaatt gtgaatagca tgattcattt ctagcagagg    3480
ctgagtttag gacagcagct tccattgaga agtctttctg tgtcgtgaat agcattttaa    3540
tgacctcttg gctcacataa gcaaacaaca tagggacgta tctgctatga aaatccacaa    3600
attttcaga tagtgcccta aaaacaattt tatatgcctc actggttgtt attcttaggt    3660
tattcccaca cttgactta tcattgttta ctactagtaa aaagcagcat tgccaaataa    3720
tccctaattt tccactaaaa atataatgaa atgatgttaa gcttttgaa aagtttaggt    3780
taaacctact gttgttagat taatgtattt gttgcttccc tttatctgga atgtggcatt    3840
agctttttta ttttaaccct ctttaattct tattcaattc catgacttaa ggttggagag    3900
ctaaacactg ggattttgg ataacagact gacagttttg cataattata atcggcattg    3960
tacatagaaa ggatatggct acctttgtt aaatctgcac tttctaaata tcaaaaaagg    4020
gaaatgaagt ataaatcaat ttttgtataa tctgtttgaa acatgagttt tatttgctta    4080
atattagggc tttgccccctt ttctgtaagt ctcttgggat cctgtgtaga agctgttctc    4140
attaaacacc aaacagttaa gtccattctc tggtactagc tacaaattcg gtttcatatt    4200
ctacttaaca atttaaataa actgaaatat ttctagatgg tctacttctg ttcatataaa    4260
aacaaaactt gatttccagc tgtgtggttt ggttttcatt tatttatgga attggaagat    4320
tacttctgaa aaaaatgtgg aatcgcaaac tcaaagagtt gacaaaaatg ggaaatcact    4380
gtcaacctat ggaaactgg aaaggcaatt tcaagaactg tctttgctga gaaactacat    4440
taaaaaatag aattatctct gggatcctaa agcggaatca tccttgtgcc aaaataggag    4500
atgccacgat cctaatcaca cctggcttac actagttgga tgtgcctaag gccactacag    4560
ctgaggtcac ctgattcctc aggggggacca agctgggctc ctcatactgg agggtaaatc    4620
cttgttttag cagcagctgg cctcttacta agaaacaaag tattggccag gtgcggtggc    4680
tcatgcctgt aatcccagca ctttgggagg tcaaggcgga cggatcacga agtcaggaga    4740
tggagaccat cctggctaac gtggtaaaac cccgtctcta ttaaaaatac aaaaaaatta    4800
gccgggcgtg gtggcgggcg cctgtagtcc cagctactcg ggaggctgag gcaggagaat    4860
ggcgtgaacc cgggaggagg aggaggaggc tgcagtgagc cgagatagcg ccactgcact    4920
ccagcctggg cgacagagca agactccgtc tcaaaaaaaa aaaaaaaaa aaaaagtat    4980
tggctgggcg ctgtggctca cgcctgtaat cccagcactt gggaggccg aggcgggtgg    5040
atcacctgag gtcaggagtt caagaccagc ctggccaaca tgatgaaacc ccgtctctac    5100
taaaaatact aaaagccggg cgtggtggcg cataccgta atcccagcta cttgggaggc    5160
tgaggcagga gaatcacttg aacccaggag gcagaggttg cagtgagccg agatcgcacc    5220
acagcactcc agcctgggct atagagcaag actccttctc aaaaaaaaaa aaacaaaaaa    5280
cagtatttcc tgcttttgtt atacatagca acagccttgt ctttatgtgt agggaaaaga    5340
aatgtttgat cctatattca ggctttatta gtcaataata aagataaata tttgttgaca    5400
agattgtctc tgctgaaagt atatgtagag tttttctcag atgcagtgat tttaagaatc    5460
acatggagtg tttttaatgt tctattcctt cccccccaaca tacttgttttt gttgggacct    5520
acaattctgc ctttgctggg tgcagtggct cacgcctata atcccaacac tttggaaggc    5580
caaggcgggt ggatcacctg aggtcaggac ttcgagacca gcctggccaa catggtgaaa    5640
ccctgtctct actaaaaata caaaaattag ccgggcatgg tgacacatgc ctgtaatccc    5700
```

2658

```
aactacttgg gaggctgagg caggagaatc gcttgaatcc gggaggcaga ggttgcagtg   5760
agccgaaatc atgccactgc actccagcct gggtgacaga acaagactct gtctcaaaaa   5820
aaaaaaaaaa aaaaaaaaaa acaaacaaga ttggtgtagg gaaataggat atggtctccc   5880
cccttaaatc gatggtctag tttagaaaac aaaagtaatt catcaagtta agcatataca   5940
agagccaaat aattgtaatc tggatttttaa ttgctgtatt aatatatcaa gttcagttgg   6000
tgagaatggg attgcttttg gggggaggag ggacattaat tggttcttcg aaatgtcgat   6060
tcactggcta gggcagatgg ggaggtcatt gtaagaagag accacagaga ctagacaatg   6120
acaggccctg gggagtcatg gtaaactcga gagtggcgag agcagtgtgt ttgtggaaag   6180
caagtttaga tggatttgaa taggagaaac aagggttcta gaggtcacat gggaagtcgt   6240
gttaatcagg gtttcaataa gaccgggcta aaatggcaga gggaaatgca gggttgaagg   6300
caaaggtagt gtgtgaatgg gggcgcggtg tatttctggt gagcctgcta ggtgcttttt   6360
tggcactgct ctaggtactt tgggttaggt cttcaacgtc cttgtgaatt agtacccaag   6420
aagaaacggc ctcagattaa gtcatttgct taaggttgca cagccagttg gtgctggagt   6480
cggattttga aaccaggcca acaccactgt ccctcctgtg ttcacttcac cttatcacag   6540
ttctcaggag ggcctggggt aatgaacagg tggcagagac agcaggaaga gtctggagtg   6600
gttgtgtgac catttagccc aaccttggca ccttctaaca aagagtaata ccctcgaagt   6660
atacttcatt tactactgtt tctgctttat attacccctc agcatctcgc gcagaagaaa   6720
gcaaagggaa gcaatggggc atctgattgg tctgggagct ccagatagcc agcaggtact   6780
tgaaggctgc aagccagctt gagagcagtg gctggaactg gaaggggtgt gcacactacc   6840
aatagcaagt gagcaagaga gacccacaat aaactgaagg ttattacagt actacagtag   6900
gctctaagaa agtcccttct cccactttaa gaaacagggc ttttttttt tttctttttt   6960
acttttaaag gaaacaattc atttgctaga aaaacct                           6997
```

```
<210> 5726
<211> 425
<212> DNA
<213> Homo sapiens

<400> 5726
tgttgtattg ggctgtgtgc aggctgcagg ttggacaaac ttggtctaga gttttcccca    60
agtaagcagg cccaaatact aggtagcaat ttttttttcat acacatccat acacttagat   120
gtggtgaagt tgtgagttaa aacagcaaat gtaaacttcc ttcacattag aattaactta   180
aaatgaaagc aatttaaaac atcttttaat ttaattattt ggctacatga ttcattctct   240
tgcttcaaac attttaaaag gagaaaaaaa aaggatacag aaatttccca ccttgttccc   300
tttaattccc tcaatgttac caattcctca tttcccccctt actccccagg taactgatgt   360
aattaattta tcagttatta ctctgagtaa atatgaatat atattttgt cccacccccac   420
cccca                                                              425
```

```
<210> 5727
<211> 2098
<212> DNA
<213> Homo sapiens

<400> 5727
gtcaaggctc ctgagacctt tgataacata accattagca gagaggctca gggtgaggtc    60
cctgcctcgg actcaaagac cgaatgcacg gccttgtagg ggacgcccca gattgtcagg   120
gatggggggga tggtccttga gttttgcatg ctctcctccc tcccacttct gcacccttttc   180
accacctcga ggagatttgc tccccattag cgaatgaaat tgatgcagtc ctacctaact   240
cgattccctt tggcttggtg gtaggcctgc agggcacttt tattccaacc cctggtcact   300
cagtaatctt ttactccagg aaggcacagg atggtaccta aagagaatta gagaatgaac   360
ctggcgggac ggatgtctaa tcctgcgcct agctgggttg gtcagtagaa cctatttttca   420
gactcaaaaa ccatcttcag aaagaaaagg cccagggaag gaatgtatga gaggctctcc   480
cagatgagga agtgtactct ctatgactat caagctcagg cctctccctt tttttaaacc   540
aaagtctggc aaccaagagc agcagctcca tggcctcctt gccccagatc agcctgggtc   600
aggggacata gtgtcattgt ttggaaactg cagaccacaa ggtgtgggtc tatcccactt   660
cctagtgctc cccacattcc ccatcagggc ttcctcacgt ggacaggtgt gctagtccag   720
gcagttcact tgcagtttcc ttgtcctcat gcttcgggga tgggagccac gcctgaacta   780
gagttcaggc tggatacatg tgctcacctg ctgctcttgt cttcctaaga gacagagagt   840
ggggcagatg gaggagaaga aagtgaggaa tgagtagcat agcattctgc caaaagggcc   900
```

2659

```
ccagattctt aatttagcaa actaagaagc ccaattcaaa agcattgtgg ctaaagtcta    960
acgctcctct cttggtcaga taacaaaagc cctccctgtt ggatcttttg aaataaaacg   1020
tgcaagttat ccaggctcgt agcctgcatg ctgccacctt gaatcccagg gagtatctgc   1080
acctggaata gctctccacc cctctctgcc tccttacttt ctgtgcaaga tgacttcctg   1140
ggttaacttc cttctttcca tccacccacc cactggaatc tctttccaaa cattttccaa   1200
ttttcccaca gatgggcttt gattagctgt cctctctcca tgcctgcaaa gctccagatt   1260
tttggggaaa gctgtaccca actggactgc ccagtgaact gggatcatta agtacagtcg   1320
agcacacgtg tgtgcatggg tcaaagggt  gtgttccttc tcatcctaga tgccttctct   1380
gtgccttcca cagcctcctg cctgattaca ccactgcccc cgccccaccc tcagccatcc   1440
caattcttcc tggccagtgc gctccagcct tatctaggaa aggaggagtg ggtgtagccg   1500
tgcagcaaga ttggggcctc ccccatccca gcttctccac catcccagca agtcaggata   1560
tcagacagtc ctcccctgac cctccccctt gtagatatca attcccaaac agagccaaat   1620
actctatatc tatagtcaca gccctgtaca gcatttttca taagttatat agtaaatggt   1680
ctgcatgatt tgtgcttcta gtgctctcat ttggaaatga ggcaggcttc ttctatgaaa   1740
tgtaaagaaa gaaaccactt tgtatatttt gtaataccac ctctgtggcc atgcctgccc   1800
cgcccactct gtatatatgt aagttaaacc cgggcagggg ctgtggccgt ctttgtactc   1860
tggtgatttt taaaaattga atctttgtac ttgcattgat tgtataataa ttttgagacc   1920
aggtctcgct gtgttgctca ggctggtctc aaactcctga gatcaagcaa tccgcccacc   1980
tcagcctccc aaagtgctga gatcacaggc gtgagccacc accaggcctg attgtaattt   2040
ttttttttt  ttttttactg gttatgggaa gggagaaata aaatcatcaa acccaaaa     2098
```

<210> 5728
<211> 2037
<212> DNA
<213> Homo sapiens

<400> 5728

```
cagatttccc ctttcccttt gcatggttga ctggctacct ggccatcctc gtcggggcag     60
gcatgacctt catcgtacag agcagctctg tgttcacgtc ggccttgacc cccctgattg    120
gtgagttaca ccctggcttc tccctctggc caccactgcc atttcctgtc atcccatggg    180
gctgatatgt ttgtgttttg tgtttccccc aggaatcggc gtgataacca ttgagagggc    240
ttatccactc acgctgggct ccaacatcgg caccaccacc accgccatcc tggccgcctt    300
agccagccct ggcaatgcat tgaggagttc actccaggtc aggacttggg gcacggggac    360
aggggccctg ggagtgggac cacccatggt cttgcaaact ggtctctaac aagagccagg    420
cttttctctg tactatccaa aatatggaac taatatgtgg aggggaagcc acgggtaaag    480
ttttcaggac cttgatatga gaacaatcaa aactatcagt tctgagagaa gcagtaagac    540
cctcataact ggtggttgtt tcagcaaaag tggggtggcc ccttgatata gatgtggaaa    600
aggtacttag gaagcacaga caccacctcc catctcctca ctgcctccta tggggaactt    660
tacaattagg agaactcctt ggcatggacc atctatgtta ctttgtgcaa gacctttggg    720
atttgaattt atttatttat ttttatttta ttttttgag acagagtctc gcactgtagc    780
ccaggctgga gtgcagtgat acaatctcca ctcactgcaa cctccacctc ccaggttcaa    840
gtgattttcc tgcctcagcc tcccgagcag ctgggattac aggcacctgc caccacacct    900
ggctgatttt ttgtattttt agtagagacg gggtttccct atgttggcca ggctggtctt    960
gaactctgga cctcatgatg tgcttgcctt ggcctcccaa agtgctggga ttacaggcgt   1020
gagccactgc acccagccgg ggatttgaat cttatctca  ccatttacat actaagtgac   1080
ctttggcaag tgatctaacc tgagcgtcaa ttccctcatc tgaaagatgg aggacataac   1140
ccctatctca ttaggattat tataaagatc tgatgaggca aagccatctg tgcaacagaa   1200
atagaaattc aggcatctaa tataaattaa ccgcatatgt catcctaaaa ttttttagta   1260
gatacatttt taaaagtaga aacaggctga ttcattcttc aataatgtat ttgatctaaa   1320
ccattatcac tttaatatgt catctgtcaa aaattgagag tctttgaaat ctggtgtgta   1380
tttcatactt aaagcacatc tcagtgtgga catgcggcta gtgtattgga cagtgctggt   1440
ccacagcctg ggcatggaaa ttggcacctt gggaaagtga ccaagcgcct ggcctctgga   1500
gccaggctcc caggatgtga atttccacct cttccatctc ccacctgtgg gacttgagga   1560
gcctccattt tctcatgtca agaaataatg gttgccactc tgtagagtgt tttttgagaa   1620
ttgagataat gcacagttga gtgctcctgg ccctcccaga cacatagtag gtcctcatgg   1680
aatccaggta ccctctgggc tgagccataa ggacaaagaa gcctggaagg cccgagactg   1740
tgctgcctgt gatgcctgct agcttacctc cccctcctcc tccctactgc cacccgcatt   1800
gggcaacagg cccctcacct gtccaacctc ttgtgttgca gatcgccctg tgccactttt   1860
tcttcaacat ctccggcatc ttgctgtggt acccgatccc gttcactcgc ctgcccatcc   1920
gcatggccaa ggggctgggc aacatctctg ccaagtatcg ctggttcgcc gtcttctacc   1980
```

tgatcatctt cttcttcctg atcccgctga cggtgtttgg cctctcgctg gccggct   2037

<210> 5729
<211> 282
<212> DNA
<213> Homo sapiens

<400> 5729
cactgctagg agcaagatgg gtcaccagca gctgtactgg agccacccaa aaaaattcgg   60
ccagggttct cgttcttgtc gtgtctattc aaaccagcac ggtctgatcc ggaaatatgg   120
cctcaataag tgccgccaat gtttctgtca gtacgcgaag gatatcggtt tcattaagtt   180
ggactaaatg atcttccttc aaaggattat ccaagtcatc tactcaatga aaaaccatga   240
tagttctttg tacataaaat aaacatttga aaaaacaaaa ca   282

<210> 5730
<211> 2098
<212> DNA
<213> Homo sapiens

<400> 5730
gtcaaggctc ctgagacctt tgataacata accattagca gagaggctca gggtgaggtc   60
cctgcctcgg actcaaagac cgaatgcacg gccttgtagg ggacgcccca gattgtcagg   120
gatgggggga tggtccttga gttttgcatg ctctcctccc tcccacttct gcaccctttc   180
accacctcga ggagatttgc tccccattag cgaatgaaat tgatgcagtc ctacctaact   240
cgattccctt tggcttggtg gtaggcctgc agggcacttt tattccaacc cctggtcact   300
cagtaatctt ttactccagg aaggcacagg atggtaccta aagagaatta gagaatgaac   360
ctggcgggac ggatgtctaa tcctgcgcct agctgggttg gtcagtagaa cctatttca   420
gactcaaaaa ccatcttcag aaagaaaagg cccagggaag gaatgtatga gaggctctcc   480
cagatgagga agtgtactct ctatgactat caagctcagg cctctccctt tttttaaacc   540
aaagtctggc aaccaagagc agcagctcca tggcctcctt gccccagatc agcctgggtc   600
aggggacata gtgtcattgt ttggaaactg cagaccacaa ggtgtgggtc tatcccactt   660
cctagtgctc cccacattcc ccatcagggc ttcctcacgt ggacaggtgt gctagtccag   720
gcagttcact tgcagtttcc ttgtcctcat gcttcgggga tgggagccac gcctgaacta   780
gagttcaggc tggatacatg tgctcacctg ctgctcttgt cttcctaaga gacagagagt   840
ggggcagatg gaggagaaga aagtgaggaa tgagtagcat agcattctgc caaaagggcc   900
ccagattctt aatttagcaa actaagaagc ccaattcaaa agcattgtgg ctaaagtcta   960
acgctcctct cttggtcaga taacaaaagc cctccctgtt ggatcttttg aaataaaacg   1020
tgcaagttat ccaggctcgt agcctgcatg ctgccacctt gaatcccagg gagtatctgc   1080
acctggaata gctctccacc cctctctgcc tccttacttt ctgtgcaaga tgacttcctg   1140
ggttaacttc cttctttcca tccacccacc cactggaatc tctttccaaa cattttccca   1200
ttttcccaca gatgggcttt gattagctgt cctctctcca tgcctgcaaa gctccagatt   1260
tttggggaaa gctgtaccca actggactgc ccagtgaact gggatcatta agtacagtcg   1320
agcacacgtg tgtgcatggg tcaaaggggt gtgttccttc tcatcctaga tgccttctct   1380
gtgccttcca cagcctcctg cctgattaca ccactgcccc cgccccaccc tcagccatcc   1440
caattcttcc tggccagtgc gctccagcct tatctaggaa aggaggagtg ggtgtagccg   1500
tgcagcaaga ttggggcctc ccccatccca gcttctccac catcccagca agtcaggata   1560
tcagacagtc ctcccctgac cctccccctt gtagatatca attcccaaac agagccaaat   1620
actctatatc tatagtcaca gccctgtaca gcatttttca taagttatat agtaaatggt   1680
ctgcatgatt tgtgcttcta gtgctctcat ttggaaatga ggcaggcttc ttctatgaaa   1740
tgtaaagaaa gaaaccactt tgtatatttt gtaataccac ctctgtggcc atgcctgccc   1800
cgcccactct gtatatatgt aagttaaacc cgggcagggg ctgtggccgt ctttgtactc   1860
tggtgatttt taaaaattga atctttgtac ttgcattgat tgtataataa ttttgagacc   1920
aggtctcgct gtgttgctca ggctggtctc aaactcctga gatcaagcaa tccgcccacc   1980
tcagcctccc aaagtgctga gatcacaggc gtgagccacc accaggcctg attgtaattt   2040
ttttttttt ttttttactg gttatgggaa gggagaaata aaatcatcaa acccaaaa   2098

<210> 5731
<211> 2037

2661

<212> DNA
<213> Homo sapiens

<400> 5731
```
cagatttccc ctttcccttt gcatggttga ctggctacct ggccatcctc gtcggggcag        60
gcatgacctt catcgtacag agcagctctg tgttcacgtc ggccttgacc cccctgattg       120
gtgagttaca ccctggcttc tccctctggc caccactgcc atttcctgtc atcccatggg       180
gctgatatgt ttgtgttttg tgtttccccc aggaatcggc gtgataacca ttgagagggc       240
ttatccactc acgctgggct ccaacatcgg caccaccacc accgccatcc tggccgcctt       300
agccagccct ggcaatgcat tgaggagttc actccaggtc aggacttggg gcacggggac       360
aggggccctg ggagtgggac cacccatggt cttgcaaact ggtctctaac aagagccagg       420
cttttctctg tactatccaa aatatggaac taatatgtgg aggggaagcc acgggtaaag       480
ttttcaggac cttgatatga gaacaatcaa aactatcagt tctgagagaa gcagtaagac       540
cctcataact ggtggttgtt tcagcaaaag tggggtggcc ccttgatata gatgtggaaa       600
aggtacttag gaagcacaga caccacctcc catctcctca ctgcctccta tggggaactt       660
tacaattagg agaactcctt ggcatggacc atctatgtta ctttgtgcaa gacctttggg       720
atttgaattt atttatttat ttttatttta ttttttgag acagagtctc gcactgtagc       780
ccaggctgga gtgcagtgat acaatctcca ctcactgcaa cctccacctc caggttcaa       840
gtgattttcc tgcctcagcc tcccgagcag ctgggattac aggcacctgc caccacacct       900
ggctgatttt ttgtattttt agtagagacg gggtttccct atgttggcca ggctggtctt       960
gaactctgga cctcatgatg tgcttgcctt ggcctcccaa agtgctggga ttacaggcgt      1020
gagccactgc acccagccgg ggatttgaat tcttatctca ccatttacat actaagtgac      1080
ctttggcaag tgatctaacc tgagcgtcaa ttccctcatc tgaaagatgg aggacataac      1140
ccctatctca ttaggattat tataaagatc tgatgaggca aagccatctg tgcaacagaa      1200
atagaaattc aggcatctaa tataaattaa ccgcatatgt catcctaaaa tttttagta      1260
gatacatttt taaaagtaga aacaggctga ttcattcttc aataatgtat ttgatctaaa      1320
ccattatcac tttaatatgt catctgtcaa aaattgagag tctttgaaat ctggtgtgta      1380
tttcatactt aaagcacatc tcagtgtgga catgcggcta gtgtattgga cagtgctggt      1440
ccacagcctg ggcatggaaa ttggcacctt gggaaagtga ccaagcgcct ggcctctgga      1500
gccaggctcc caggatgtga atttccacct cttccatctc ccacctgtgg gacttgagga      1560
gcctccattt tctcatgtca agaaataatg gttgccactc tgtagagtgt tttttgagaa      1620
ttgagataat gcacagttga gtgctcctgg ccctcccaga cacatagtag gtcctcatgg      1680
aatccaggta ccctctgggc tgagccataa ggacaaagaa gcctggaagg cccgagactg      1740
tgctgcctgt gatgcctgct agcttacctc cccctcctcc tccctactgc cacccgcatt      1800
gggcaacagg cccctcacct gtccaacctc ttgtgttgca gatcgccctg tgccactttt      1860
tcttcaacat ctccggcatc ttgctgtggt acccgatccc gttcactcgc ctgcccatcc      1920
gcatggccaa ggggctgggc aacatctctg ccaagtatcg ctggttcgcc gtcttctacc      1980
tgatcatctt cttcttcctg atcccgctga cggtgtttgg cctctcgctg gccggct        2037
```

<210> 5732
<211> 282
<212> DNA
<213> Homo sapiens

<400> 5732
```
cactgctagg agcaagatgg gtcaccagca gctgtactgg agccacccaa aaaaattcgg        60
ccagggttct cgttcttgtc gtgtctattc aaaccagcac ggtctgatcc ggaaatatgg       120
cctcaataag tgccgccaat gtttctgtca gtacgcgaag gatatcggtt tcattaagtt       180
ggactaaatg atcttccttc aaaggattat ccaagtcatc tactcaatga aaaaccatga       240
tagttctttg tacataaaat aaacatttga aaaaacaaaa ca                         282
```

<210> 5733
<211> 2852
<212> DNA
<213> Homo sapiens

<400> 5733
```
ggcaacagga gtccatggag gcagacacag acctagaggc aggcctggaa gaagaggcgg        60
tgagtgctca ctctcaggct gggtttaaga gtgggatgga cagcctagct cctctggttc       120
```

2662

```
tccctggagc tctctctggg tggggcactc cctgccccta attgatgggt tgtgtcatag     180
gttctttctg caccccagtt ccatttgtgc acggccacct ctgcagagga ggtgggcagc     240
tacggggggcc cttcctggca ccatgccccg ctgggcagtg gggaagccgg ctgcgtgtgt    300
tcctcctcgg ggcccactct gctcccatct gctggctgag cccagcctgg ctgcttaggg     360
tagggcagga gccctactgg ctgaaatctc ccctatctca caatgtccca caggtggggg     420
gcctggggcc tggagcctgg gcctgcctcc ccgggcaggg tcttcgctat ctggaacacc     480
tgtgcctggt gctggagcag atggcaaggc tccagcagct ctacctgcag ctgcggatcc     540
agaggccccc aggggtgagt gagattcgag tgggggaggg agaggacaga tgggaccctg     600
ggaaccatgg ctgccctcag agcagcttca gccctctagc caggccctga tcacctgtct     660
ctcctgtgca taggatcccg gcgaggagga gtcgacccga gcccctttac cgtccccgtt     720
acacacccca ggcaatcggg ggcaggggcc atgggagctg ctaagccaga cagagcacac     780
aggtgagggg ccatcgtgtc tccctttgtc ctgcctgcct ggggtcccac cagcaggtcc     840
tctgagccga agcttgatgg ggtgtcttct ggccctggcc aacctgactg tctttctgaa     900
ggagcaaagg ctgcttcacc cccaaaggtg gaggtgccca gtgccaaccc tcccaggctg     960
ccagaaaccc cagtggagcc aacgtaccac ttgccatcct cccaggaca caaggtaggg    1020
gacaggtata tgtggggcag gtggtgggct ggggtggggg gagggggaggt gggggatgca    1080
tgggcaccct ggggggccagc aactctgggg aaatgacagg attgattcct gtttggagca    1140
ggcgacttgt cctggctgtg gcgacagctg tctctgggag cttggtcggg ggtctgagtg    1200
tggggagggc tctgggtgac ccctcatcct ctgctcagcg ggatatctcc cactgggaca    1260
aggtcaaggt cctgctcaac cggatctgcc ggagaagcca ccaccaccct gagcccctg     1320
cccctcctga tggctctgac cccaggtgag ccccgtgccc agcccaggtt agggcacgga    1380
gaggagactg ataagccagg atgctgagat tgtcatgcca gttgtcatta ttgtccccgc    1440
aaaacttgag aggcagtctg ggaggggctg ctagaagaaa cagtagttaa aacaccccat    1500
ttacagataa ggaggcaggg ttctgggtgg ggttgggggt agttgctttt ccaaagccgc    1560
acggtgagtc agtgacagct aggaccagaa tgtgggaaat ctgcctaccc tagctcagca    1620
acccctcacc ctcaatgctg acatttaggc caccttccag gttcgtgggg agagcaaggt    1680
ggagcacaaa ggatttcaca gtgggtgaag gccatcatgc ttcggggctt gtattgaatc    1740
gttctccagg aggaagaaat accaagtcat ttaacagccc cgggctgcgc ccacacccag    1800
ctacccacca gcagataaac cacgttctct caactctagg gccattgtta gttttatttc    1860
ccccttctag cctaatgtct tcttttcatt ccacaggatc gagtccaggg acctccctga    1920
aaggcctcag tgccgccccc accggaagac ctttatgcca tcattagtgg ttaagaagca    1980
acgagcaaaa aacctttctg taggctgaga cctctcggtg cacctggtga ccctgggtgg    2040
aggggacttg ctgtgaagtc ttcctcgccc tctgccctct tgctgcttct ccacattgcc    2100
aggaaaagct gctgacgcct gccctcctct cttgagtcga gggctgaatc tttctcctct    2160
aagcagtctg gtcaggaacc ttggtttctt gagaggcccc caagatgccg cagctccagg    2220
gctcttcctc ctcaccagaa atccctgggc ttccacaatg tgaactcact cattgtcagg    2280
tgtccgtgga gtgttttttgg catggtgacc tgtctgggcc cagcatgttg cagatgtgta    2340
tttatcgca atggtatgca tatctctgtg tgactgtcag tgttgcaagc tggctggatc     2400
caaccatctc ttctgaaata atgcatccaa agggttgata ttctgggga ggtcactgca     2460
gaaggatgga actgaccttt attccccagt gggcagttac tgagctttcc tcctcagagc     2520
catgctggca gccctgggac agagaacggt gtggctttgg ctgcctctgc atggaatctt     2580
gccccggact cctgaagact gcacaaggaa tgaggaagat cagggacaac ctgggaactg     2640
aataactttc aaagccagtg ctcagcttct ctgctccgta ctagcgttta caggtcttaa     2700
ttcaaaccag atgcctgtac tagttttttag accccaagtc aacctttctg agccacagct     2760
tcccgctggg aataatgatg cctgccctat ctacctcaca gacttgttat gaggataaag     2820
tgagattaaa ctgcctcaaa gtgctttgta aa                                   2852
```

```
<210> 5734
<211> 2852
<212> DNA
<213> Homo sapiens

<400> 5734
ggcaacagga gtccatggag gcagacacag acctagaggc aggcctggaa gaagaggcgg      60
tgagtgctca ctctcaggct gggtttaaga gtgggatgga cagcctagct cctctggttc     120
tccctggagc tctctctggg tggggcactc cctgccccta attgatgggt tgtgtcatag     180
gttctttctg caccccagtt ccatttgtgc acggccacct ctgcagagga ggtgggcagc     240
tacggggggcc cttcctggca ctatgccccg ctgggcagtg gggaagccgg ctgcgtgtgt    300
tcctcctcgg ggcccactct gctcccatct gctggctgag cccagcctgg ctgcttaggg     360
tagggcagga gccctactgg ctgaaatctc ccctatctca caatgtccca caggtggggg     420
```

2663

```
gcctgggggcc tggagcctgg gcctgcctcc ccgggcaggg tcttcgctat ctggaacacc      480
tgtgcctggt gctggagcag atggcaaggc tccagcagct ctacctgcag ctgcggatcc      540
agaggccccc aggggtgagt gagattcgag tgggggaggg agaggacaga tgggaccctg      600
ggaaccatgg ctgccctcag agcagcttca gccctctagc caggccctga tcacctgtct      660
ctcctgtgca taggatcccg gcgaggagga gtcgacccga gcccctttac cgtccccgtt      720
acacacccca ggcaatcggg ggcaggggcc atgggagctg ctaagccaga cagagcacac      780
aggtgagggg ccatcgtgtc tccctttgtc ctgcctgcct ggggtcccac cagcaggtcc      840
tctgagccga agcttgatgg ggtgtcttct ggccctggcc aacctgactg tctttctgaa      900
ggagcaaagg ctgcttcacc cccaaaggtg gaggtgccca gtgccaaccc tcccaggctg      960
ccagaaaccc cagtggagcc aacgtaccac ttgccatcct cccagggaca caaggtaggg     1020
gacaggtata tgtggggcag gtggtgggct ggggtggggg gaggggaggt gggggatgca     1080
tgggcaccct gggggccagc aactctgggg aaatgacagg attgattcct gtttggagca     1140
ggcgacttgt cctggctgtg gcgacagctg tctctgggag cttggtcggg ggtctgagtg     1200
tggggagggc tctgggtgac ccctcatcct ctgctcagcg ggatatctcc cactgggaca     1260
aggtcaaggt cctgctcaac cggatctgcc ggagaagcca ccaccaccct gagcccctg      1320
cccctcctga tggctctgac cccaggtgag ccccgtgccc agcccaggtt agggcacgga     1380
gaggagactg ataagccagg atgctgagat tgtcatgcca gttgtcatta ttgtccccgc     1440
aaaacttgag aggcagtctg ggaggggctg ctagaagaaa cagtagttaa aacaccccat     1500
ttacagataa ggaggcaggg ttctgggtgg ggttgggggt agttgctttt ccaaagccgc     1560
acggtgagtc agtgacagct aggaccagaa tgtgggaaat ctgcctaccc tagctcagca     1620
accctcacc ctcaatgctg acatttaggc caccttccag gttcgtgggg agagcaaggt     1680
ggagcacaaa ggatttcaca gtgggtgaag gccatcatgc ttcggggctt gtattgaatc     1740
gttctccagg aggaagaaat accaagtcat ttaacagccc cgggctgcgc ccacacccag     1800
ctacccacca gcagataaac cacgttctct caactctagg gccattgtta gttttatttc     1860
cccctttctag cctaatgtct tcttttcatt ccacaggatc gagtccaggg acctccctga     1920
aaggcctcag tgccgccccc accggaagac ctttatgcca tcattagtgg ttaagaagca     1980
acgagcaaaa aacctttctg taggctgaga cctctcggtg cacctggtga ccctgggtgg     2040
aggggacttg ctgtgaagtc ttcctcgccc tctgccctct tgctgcttct ccacattgcc     2100
aggaaaagct gctgacgcct gccctcctct cttgagtcga gggctgaatc tttctcctct     2160
aagcagtctg gtcaggaacc ttggtttctt gagaggcccc caagatgccg cagctccagg     2220
gctcttcctc ctcaccagaa atccctgggc ttccacaatg tgaactcact cattgtcagg     2280
tgtccgtgga gtgttttttgg catggtgacc tgtctgggcc cagcatgttg cagatgtgta     2340
tttatgcgca atggtatgca tatctctgtg tgactgtcag tgttgcaagc tggctggatc     2400
caaccatctc ttctgaaata atgcatccaa agggttgata ttctggggga ggtcactgca     2460
gaaggatgga actgaccttt attccccagt gggcagttac tgagctttcc tcctcagagc     2520
catgctggca gccctgggac agagaacggt gtggctttgg ctgcctctgc atggaatctt     2580
gccccggact cctgaagact gcacaaggaa tgaggaagat cagggacaac ctgggaactg     2640
aataactttc aaagccagtg ctcagcttct ctgctccgta ctagcgttta caggtcttaa     2700
ttcaaaccag atgcctgtac tagttttttag accccaagtc aacctttctg agccacagct     2760
tcccgctggg aataatgatg cctgccctat ctacctcaca gacttgttat gaggataaag     2820
tgagattaaa ctgcctcaaa gtgctttgta aa                                   2852
```

<210> 5735
<211> 590
<212> DNA
<213> Homo sapiens

<400> 5735
```
ggcgcaggcc gtctaaggga ttgatggatg tggcctgcca gggctttgcc taccacacag       60
ctcagagcac gggttccctg tcgctaacaa ccgttgcgaa gggaatccca tccacacatc      120
tcccagacag ctggggccat atccgggctg cccgtggctg tccagtgacc gcccttcctc      180
actgctccgg gacacttctc cctggggcag tgctgccagc cttcaggaat gctggggggtg      240
ttggggggtgg cctgcccagc ctgacgctga ctctccatgc agatggggct ggcgagggcc      300
tggcacgggg ctgcatagtg cctggagtca ccagcaccta cagacggatc cccgacgctg      360
cccacgggtg ctcatcctgg gagagaggtg acaagttcag aggtgtcggc agggaggcac      420
tctttctcaa actggcctcc cgggactcag gagtggagat ggcagttggg gacagccccc      480
tggccgcctt accgggcctt tctcaggact ccctggactt tgaatcctca gggagttctg      540
agccccccgc ccaggtaggc cgactcctgg ccagccagaa gctggggggag                590
```
```
                                           2664
```

<210> 5736
<211> 159
<212> DNA
<213> Homo sapiens

<400> 5736
atggggaggt cggaggataa ggggggctg ggattgctaa tggggactaa aatggccagt   60
ctcctggcaa gattttgagc aggtcatttc attgaggcct cttagatttc atatttgaga   120
attagggcac tgattcctga ctggctaggc atggtggtc   159

<210> 5737
<211> 590
<212> DNA
<213> Homo sapiens

<400> 5737
ggcgcaggcc gtctaaggga ttgatggatg tggcctgcca gggctttgcc taccacacag   60
ctcagagcac gggttccctg tcgctaacaa ccgttgcgaa gggaatccca tccacacatc   120
tcccagacag ctggggccat atccgggctg cccgtggctg tccagtgacc gcccttcctc   180
actgctccgg gacacttctc cctggggcag tgctgccagc cttcaggaat gctggggggtg   240
ttggggggtgg cctgcccagc ctgacgctga ctctccatgc agatggggct ggcgagggcc   300
tggcacgggg ctgcatagtg cctggagtca ccagcaccta cagacggatc cccgacgctg   360
cccacgggtg ctcatcctgg gagagaggtg acaagttcag aggtgtcggc agggaggcac   420
tctttctcaa actggcctcc cgggactcag gagtggagat ggcagttggg gacagccccc   480
tggccgcctt accgggcctt tctcaggact ccctggactt tgaatcctca gggagttctg   540
agcccccccgc ccaggtaggc cgactcctgg ccagccagaa gctggggggag   590

<210> 5738
<211> 159
<212> DNA
<213> Homo sapiens

<400> 5738
atggggaggt cggaggataa ggggggctg ggattgctaa tggggactaa aatggccagt   60
ctcctggcaa gattttgagc aggtcatttc attgaggcct cttagatttc atatttgaga   120
attagggcac tgattcctga ctggctaggc atggtggtc   159

<210> 5739
<211> 9689
<212> DNA
<213> Homo sapiens

<400> 5739
ttttttcagg gtgaagaaaa tcttaaaaca agcatttgta cgttttttagc agttttatca   60
catttagaca ttattactca aaatattcca gaaaaggtaa gtttgtttgt aagaatttaa   120
acttgactgt aaaaaaagaa ttgtatgtat ttgtaccaat tttttatatg tagagcattc   180
ctgtgaatgt ttgcaatttt tccctttcct ttccactgcc ctgctaatgt gcacatgtat   240
tagacacaaa tacccagtaa atgggaatta cccatttaca tgcatacaca ctgaggtgtg   300
cttgagtaca taccaaattt atagacaaac tactgggtaa gtttttgttg atacttgtat   360
aaaattaata attatttata attcttagga ttaggattac ttaggattct ttaaacagga   420
cttcccttac cttctttgac tgaatggtag ttatttaaca aatgctcgtg caaagaaact   480
tatggccaga ctattaaaag ctgttgggta attgaaggtg atataaaatg actgtcatca   540
tttggagtgt gcagtacagt tacttcatgt tcctcaggtt tagaacaatt tcccctgtaa   600
gttctcacac agataggcag aaatcataac taatttttggt taatcactat ggcagccgtt   660
gaagaattta agagaacctg ccagtaagat ttggaataag attctatatt attgcatcca   720
cagaaaagaa tgtactgata tactataaac tctaggagaa aacttaattg aaatagtgtt   780
attaagtgtt gaaagtacca taaaaatata agggaaaata agctttccta gaatttttca   840
gtgttctagt ttttaaacag tgatgttttt tattaaccta tttcatccat tcaaagacag   900

                                    2665

```
gcctttctcc acaccacatt ttcctctaaa atcatgataa cacttttaaa ttgatggtgt    960
cttccagtgt gtatcagcca gatggcagtg tgttacagtt ccaggaaaac tcgttcacat   1020
cttccgtaag atcaagaagg ctctggcatc agataagatc aaatgttgtc tttctgtttt   1080
aaatatgtgc cgcaaagaga tttgcttaca atctattgag aaagctaaaa cagagcagac   1140
attgtcctgt tgcggggtag atgaatagcc taagaatagt ttagacaaat tctgaaaacg   1200
aatttacctt agaagatgtt catgttagat ctggtaaaag taacatgtta ttttctgtc    1260
aagccctttt tgtacttgcc gtttattaca tattttagat ttatttttta ttttcgaaac   1320
atccaaaaag gaatgctaat tagtgaaatg gaagaatttc catttcaaca ccttaggaaa   1380
aaaaaaactg acttgacata cctaagaaaa ggccaagttg atttactttg tcagtctctt   1440
catttgtgat acgtaaagtc cgttgttacc tagataaatg taggtttgat ttcttggaag   1500
caatcactta agactttcca tttctcttcaa agcatcttac ttaacctgca tgtgggatct   1560
gtactgagca attagagatt caaaacaact gtcacacacg acagaggtgg taaccgccca   1620
acaggttcac ctcttccgcc gcctacacag agccgattta tcaagacagg aattgcaata   1680
gaggaagagt acacagagct gcttgtgcag gagactggag tcttattagt actcaaatcg   1740
atctccctga gcattcgggg atcagagttt ttaaggataa tttggtggga gggggaaggc   1800
cagtgagtca agggtgttga ttggttgggt cggagatgaa atcataagga attgaggtgt   1860
ccttttgtgc taagtcagtt ccagggtggg ggccacgaga tcagatgagc cagttaatcg   1920
atctgggtgg tgccagctga tccgtcgagt gcaggtctgc aaaatatctc gagcaccgac   1980
ataggagcag tttagggagg gtcagaatct tgtagcttcc agctacatga ctcctgaacc   2040
ataatttcta atcttgaggc taatttgtta gtcctacaaa ggaaatctag tccccagaca   2100
agaaggggggt ttgtcttggg aaagggctgt tatcatcttt gttttaaact ataaactaaa   2160
ctaagtttct cccaaagtta gttgagccta cacccaggaa tgaacaagga cagcttggag   2220
gttagaagca agatggagtt ggttaggtca gatctctttc cccacctcag ttacaatttt   2280
gcaaaggcgg tttcagaatc agagcacgaa gtgttcctat aaaaggaaaa aaaaaaaaa    2340
cctttcttaa ttatgctcat agttgtgtat tgtcctgtca gcttgctcat tgtgtaaaat   2400
gagcggacat gagaattcac gagcagagct ttttacactg atatgtatga aagcatcatt   2460
tacgtcctga aagccccagc cgagcgatca ctggcagtgc caacatttttt gagtgtgggc   2520
tccataggaa gcactgtttt ccctattgag aattatagtg ggtttttttc atttacgagt   2580
aatgtatacc tagctccaag atcttggttg ctaacaccat tctccaataa aacgaaccag   2640
ggatcgctgg agaaatagct gattctaaaa ctagggcaga aagtatacaa gatgagcctg   2700
gagcatcttg tagagtcaga gagcaaggca gaactttata catacagtga tgtgagatgg   2760
gcatgcagag ggaagatgtt cccagtggct gaagctgaaa cagtgtgagc aacaaaataa   2820
agcagtgttg gatcacaacc caaagaataa aataaatatc ctcgagcccc acaccgatat   2880
aaataaatga ttgaatcaat aaatgagtcc aggcactgtg gctcatgcct gtaatcctgc   2940
actttgggag gccaaggcgg gtggatcact tgaggtcagg agttcgagac cagcctggcc   3000
aacatggtga accccgtct ctactaaaaa tacaaaaatt agccaggcat ggtggtacat   3060
gcctataatc ccagctactc aggaggtgag gcaggagaat cacttgaacc cgggaggcag   3120
aaattgcaat gagccaagat tgcaggactg cactccagcc taggcgacag agtgagactc   3180
catctcaaaa aaaaaaaaaa ggatggacaa gacaaatctc ttgtaaaaaa aattacaagt   3240
aattttttata gaagctctgc cctgagggag ggggagcgtg acttctcact ccttcagtgt   3300
gggctgcaca agtgacttcc ttccatatgg gatcgttata acaaaagact gtaacaaggg   3360
ctatgggagt tataagacag gaattgtgga caaaaaccag tgtatatcat aacatcacac   3420
cttgtaatgt tggcagtaca gtcactgacc tttgataaat gttgatgaca tgttgagtaa   3480
aggaatgaga gaaagaggat tgtttatctc tgtttttatc cttctcagag aaacttagag   3540
taacaagtgt gttatcagcc atgctgatgc ctttggtaaa ctattgtgtg aatatggttg   3600
ttttgaattg gtcagtagaa actgggctgc caggcgcagc cggtaagcat ttccatgtga   3660
gccttagggg agaagtgcat ttggtaggag catcaaaata gcttctgata tttcattaaa   3720
agtttgggtc cgtctggttc cttcattagt atatgtcact tcctttgacc ttcagtgtct   3780
gttgaaccat gtgattttag aaagcaaggg attgcttgac atctccaggc tgtgaagact   3840
aaagttcaca ggaaaagact acaaggaaat ttaaacagtt ttattatttt cccctcatt    3900
tcttaatttt cctgccacta ctcagtactg tgtgggtcca ggatcaccat tagggaagac   3960
agagtagctc agaaatcagt agtgaggagg aggacagcac tttgtgtggt atcttgctct   4020
aggagcattt tcaagccatc agaagtggga ctcttgaaga ctatttctga ctttctcagc   4080
acaaattaag ataataggag atggaggctc catttgaaaa acattttggt tgtataatgg   4140
ttagcataaa acatactttt ttcaagttaa ctcaggtact agagtatggg gggcggggggg   4200
aaatgtactg cagcattaat gaaaactaga gctgggagaa tgtgtttttc cttgagtaaa   4260
ttgcaaatgc ctgtgcaccg catttgacca ggagggaaga atgagaggcc ctggtagcaa   4320
agccagtgga agaagtttta ctaggagcag ttgtatcatt cgtgtacttt ttttgtgtca   4380
tacaagtgag agtaaaatgg tccatgtctg tgttttgagg aattttttgc ctttcttttc   4440
agaaactaat tctgaagcaa gcccttatag ttgtgctgca gtggtgtttc aatcacaatt   4500
ttagtgttcg actgtatgct ttagttgctc ttaagaaact ctggactgtg tgtaaagtgt   4560
```

2666

```
taagtgttga agaatttgat gccctgactc ctgtgattga atccagcctc catcaagtgg   4620
aaagcatgca cggagcaggg taaggagccc tcgtcaacct catcgccctc actctcctcc   4680
agcagggccc acagggaggg ggcagtgccc atactgtgtc agcttctcct tccacatcct   4740
catgctgccg tcctggagca tcgagggctt ggactgggcc aggcctaagc agctcacttt   4800
ggggtgtagt taattacagt tcattgtcag ctccaccttg acctcttatt gcccttttat   4860
cctcaatcct ttattgtaca aataatcttc tacatacttg tacctgtttc tcttcagtat   4920
agctaaatgt catcctttgt tgtttgagaa ctgcttagaa gtggcacgac ctgactttaa   4980
agacatactt ttaatctctc agctatacta gttatagcta aaggcttttt tcttttctaa   5040
gagaactctc ctattccgca gacaaaatca tacatggaag ctcagtatca agcaagtgac   5100
gtggatgggg tgagggagcg gtgcaggacc cagtgtctgt gaagcccca cggtggttcc     5160
catgtctgcc tctctttccc cgcacctgtc acggtgcaga agcaggctgc agtgtcataa   5220
gcatctccag gtctctgcgc ttgtttcctt atctctgagg tggtgctgtt ttgcctttt    5280
attattatca tagattattg ccatccagga attctggatt ttttttttaa attttagaga   5340
cacaggcaat atcaaccaac ataaaagatt tttcatctta aaagctgaaa aagcacccac   5400
taatttatat acacaaatgg ttaagtgttg gaagcagcat aataggcaaa tgaaatagca   5460
tttggaaaac cagtaacatg tagaagtctt ggtcgtgacc attaagttat ttgtacatgg   5520
tacaaataag actgagtcat tgtgtagctt catatggggc tggggcgagg gtacctccct   5580
ggcccgcaat gtacctttct acctcccttc acttttgatg catttgttga aaagaggcat   5640
ttgggcatta agtgggtaag ggaggtttta ggggcttggg agaaagatat ttgataaata   5700
caaataaata ctaaaatgga gaaaaaagta aatagcatga aataaaacag gggagtagca   5760
ggagaaaaag agagttagct gtggggagat gggttccaga ggagggacag agagcagagg   5820
cgggaatgga ttcctggtac atcgtgcaca gttctgtata ctggagaatg accttcctgt   5880
gcctggccca gcaaaggctg gtcatcaaaa ttagtcattc actgtagcat tgccagggac   5940
ccctacaatt ccaactgtcc tctgaaaact aaaaatcttg atcttttcaa gggaccttaa   6000
atgtcttatt tctccttggt gtatggtgta tttcctatta tttggtgaat acatggctga   6060
gtttacatgt gtagatttga acattaatat ttctcaggat cgcatttgca ttatcatgca   6120
gtaatccaaa ctcaagctac caaagttgct gctaatcata ttttattatg taatttaatg   6180
aacttacgtg ctgtttgtgt ttgatggtta gagataggta accaggggac agagggtata   6240
gttaccccat agactttcag cccttcctta atggaaggga gtttgaggga attgccataa   6300
tttaacacgc agataggcat ttgtcagctt gtagctgtct ctgtgattcg atggtgagtg   6360
attatttggt attgagacat ttcgatcctg gttgttgatc ctattctaaa tttgttggta   6420
gctgtgtttt gatttctaaa agcaattggc tccagtcata tttttttatta agcaataaaa   6480
cgcacttta aaaaataact ttaaaaatct cagtaccagg taggagataa atagccaatc   6540
aaaataaggc atccggctgg gtgcagtggc tcatgcctat aatcccagca ctttgggagg   6600
ccaaggtagg tggatcgcct gaggtcagga gttcgagacc agcctgacca acatggtgaa   6660
accctgtctg tctctactaa aaatacaaaa attagctggg tgtggtggca ggcgcctgta   6720
atctcagcta ctcgggaggc tgaggcagga gaatctcttg aacccgggag gtggaggttg   6780
cagtgagcca agattgcgcc actgcactcc agcctcggca acagagcaag actctgtctc   6840
aaaaataaat aaacaaataa ataaggcacc ctgggcatta agccacctct gttctgtgat   6900
tgcatacctc cttgggatcg gcttgtgaca ggcacaaggc caggtgctgg ggcttagcca   6960
ggtagatgag cctctttctt catgtgactc acagtcaaat gggaatagac atcaagtaat   7020
cagagcaatt tttttaaagtt ttaaaataaa tcacagaaaa gtaaatgtga tgaggaaagt   7080
tttaaaataa atcacagaaa agtaaatgtg gtgatgagga aatacagact gttcagtctg   7140
ggtggtttag ggaaagcctt tctaagtaac atgatgttta cattaaaatc taaagcatga   7200
ataggagcta ggtcaatgaa gactgaagga aagagatttc tgtgcagaag acactgtgtt   7260
tgggaacggc cagccccact tgatttgccc agagctttaa ctaaagcaag cttggtctgg   7320
ctgagggaag caacagagca gtcccaagat ggagggagcc agggccaggc ttgggttgat   7380
gttgagtgaa tggggaagcc agcaaaaagt taaacttgag aatgacgtca tccagttttc   7440
ttttgcatta aagtgtgaag agcagatcgg aggtgagcaa gagagagtgg gaggaaaatt   7500
gtgatttaga ttagtatgag attagtagag ggacagagaa atggacaggc tttgaggtaa   7560
ggtaaacaag ggcctaaagt actgactgga tttatcaaga gccattcgat agcataatta   7620
ggggattgaa accaaattaa aataggtaca agaggggggcc agctgcagtg gctctcgcct   7680
gtaatcccag cactttgcga ggccgaggtg agtggattgc ttgagcccag gagttcaaga   7740
tcagcctggg caacatggca aaaccccgtt ctctataaaa ataataataa taaaaaaaag   7800
ttagcggggt atggtggcat gcacctgtag tcccagcacc tcgggaggct gaggtgagag   7860
aatcacctga gcccaagaag ttgaggctgc agtgagcgga gattgcacca ctgcactcca   7920
gcctggcaac cgagtgagac cctgtctcaa aaaaaaaaca aacaaacaaa gtccaaatgt   7980
ggataggatg atacattaac atatattaca tcagagtggt aggtttactg gtgtctataa   8040
ttttctttac ctgaatattc ggaatatttta aaatatttca tgtctttaac ttttcaaaaa   8100
atgggtgatg aaggtgagac agagtcaact tatttagaaa attctctcaa aaaatagtat   8160
attagaaagt tcaacagcta gtggtggggg tgctgtcaaa agagggcttc tgtttcattt   8220
```

2667

```
ttggtaacat tagttgtttt taagtgatac tcatagtcag gaagttgaac agtgcagaaa    8280
ggcatcgaat gaaaacgaga cagtctcctt ccttctccca ccaaaggtga aactccagta    8340
aacttgcttt tcttttaaca gctacctaat attccatttg ccttaggata tcgcttgagt    8400
ccattactga tggacacttt aataaggttt tgttttgttt tttaagacta gatacaaaag    8460
cccttttgaa aaggctgaag gaaaggctag aatagagaag aggggagatg cggaagttgg    8520
gggagatagg gcaaaaccca ggggaatggg atctgttgcg gggcagggta ttgccctttg    8580
aagagagact cttgacagtg aaggagaaaa gaggacaggt gggtaaggag gtggcaggaa    8640
gaagaaagat ctctcactcc tgtctcctgt gatgtgtgag gcatggctgt ctgctgatag    8700
tgagagggtt ggggagggca taggaactcc agggagtgaa gaagacacac tggtcagggc    8760
aggagcgtga tcttgccaga aaaatgtctt gaaattgctg cttagtttat gggttgatga    8820
tcatgaattt tatctgaaac ctgcctgcca tattgtataa cttttatccc tacctttttt    8880
gccttttaaa acataaactt gacaacagat gtttaaaaa tttaaacgct gctcatagta    8940
aatttgtttg gtttgtgaaa gtaggtacaa cttggctgca tggtatgagt ctttggagta    9000
gaaaaggtga cttttatgta atggttttct ctcctggaaa aaagagtttt ctgccagaca    9060
taggtttaag gttccatttc aaaatgtgaa atttattaag tgtcagtttt taaagtatgt    9120
attgatcttg gagaggtgtg tataaatctt aggataaagt tcataaaatt ttctgttcct    9180
tctcaactct gcagccaccc tttaagatac tgaattgatt ctcccctcac cagagttgtt    9240
tcatttgtct gtggctcata ccatattttt aatccttagg aatgccaaga agaattggca    9300
acgcattcag gagcatttct tttttgcaac atttcaccca ctcaaggatt attgtctaga    9360
ggtgagtaga gaatatcatt tgtaaattct ctattgtatc tttaatcctg atgcttcctt    9420
tctgcttttg ttgaaggggtt gtgattaggg taaagttttt ttcttgctta caaacatcac    9480
cttaacattt taaagttcta agtttaactt tgtcacttta tgcagatgac ttgctttcat    9540
ttcactctta agcagtgaaa attggctagt cattttcact ttctatttct caggcagtgt    9600
ctggcttgta aacaatggaa gggaatattt aactctaaac agaaatctgt tctgacatta    9660
aaaggaaatg agtgagaaca tttgtgcag                                       9689


<210> 5740
<211> 623
<212> DNA
<213> Homo sapiens

<400> 5740
ttgtttttt tttgtttta ttttattatt attatacttt aagtttagg ttacatgtgc         60
acaatgtgca ggttagttac atatgtataa atgtgccatg tcgtgtgct gcacccacca        120
actcgtcatc tagcattagg tatatctcct aaagctatcc ctcccccct cccccaccc        180
cacaacagtc cccagagtgt aatgttcccc ttcctgtgtc cgtgtgttct cattgttcag       240
tttccaccta tgagtgagaa tatgcggtgt ttggttttc gttcttgcga tagtttactg        300
agaatgatga tttccaattt catccatgtc cctacaaagg acatgaactc atcatttttt       360
atggcctcat agtattccat ggtgtatatg tgccacattt tcttaatcca gtctatcatt       420
gttggacatt tgggttggtt ccaagtcttt gctattgtga atagtgccgc aataaacata       480
cgtgtgcatg tgtctttata gcagcatgat ttatagtcct tgtgtatata cccagtaatg       540
ggatggctgg gtcaaatggt atttctagtt ctagatccct gaggaatcgc cacactgact       600
tccacaatgg ttgaactagt tta                                              623


<210> 5741
<211> 1591
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (534)
<223> n equals a,t,g, or c

<400> 5741
tttttgacac agccctcagg agatcctgag aatatgtgct tgattgaaga cttttgaaca        60
gagcagtggg tgtctgggga agaacactct ggtggtgtgg tacaagacag tgttaagagg       120
aggcgtctgg agcagaagga tgagctggga ggctggcagg ccctacatt tatgtggtca        180
aaacctaggg tgtggtagca gcaaagatga ggaaaggaag ggatggtggg ccaggtggct       240
```

2668

```
ctctagatgg gaggtgtccg ggaacttgca ggtctcaagc ctgggtgact aggaggatgg    300
tgcgcaaaac aggaaaggca ggacgcggct gctgggttcc tttctcgagt gcacgcaggg    360
ctgaaaggag gggagctgag atgagaacgg ccctttttccc cactgaatgc tgcctgccca    420
tgtgtgtcgt cttagctgtt ttctatttgc ccatcgtgtt tagtagaata attgaatctg    480
cagacagttt tgactagtcc attttgcctc tcactccacc ccgctgcctc tcgngctttc    540
tctctctctt ccttacctgc ctgctgccag ctccttgcct cccctctgat tactgcgccc    600
ccgcaataac tcactgtttg atcttccaca tacgggaacc tcgaaaccca gctactgtct    660
gcccagcagg gttgaagtgg ccagggtgac ccaggccatg tcctgcactg attgtaatcc    720
tcctctgcgc ctaacacaga gccttacgtg tataccgagt agaggagaag gaaggatgtc    780
aaacatgtca ctaccacccc ccagtgcatg ttggtctccc tcacgctgga ctgtggcagg    840
agtcttccaa aactgctctc agtgccccat cccctctgtg tgcaatcata tcgttgctta    900
cttaaccaac cattcatctc ttagggcctg agttctgtta cccagcctcc tcagaatctt    960
cagcagttcc tcatttccat aggggaaagc cagctgttta tttccttttac ttatgcaacg   1020
aataagtcag tgtcagatag tatttttgtt gataaagcca cagcggcgag caaaactttt   1080
ggtcctgctt cctgtgagct gactttctgc aagggagaga gatgataaat gcacatataa   1140
tatagttgag agtgatcagt gctgcaagga aaagcagagc tgaggaagga gcaaatggtg   1200
gagagggagg agagggagtg gtgctggcct agacggtcaa aggttgctgt ggtaagggga   1260
cactggagtt tttatctgag tgaggctggg tgcggtggct cactcctgta atcccagcac   1320
tttgggagga tgaggtgggc tgactgcttg aggtcaggag ttcaagacca gctcgggcaa   1380
catggctaat ccccatctct acaaaaagta caaaaatcag ctgagcatgg tggtgcatgc   1440
ctgtaattcc agctactgag gagactgaga ggcaggagga gcacttaagc ccgggagggg   1500
aaggttgcag tgagctgtca tcacaccact gcactccagc ctgggcaaca gagtgagact   1560
ctgtcacaaa ataaaatata aataaataaa a                                   1591


<210> 5742
<211> 1906
<212> DNA
<213> Homo sapiens

<400> 5742
ggggcaaatg ccattgaaac cgctagtctt atttcctttc tactttctt tggcactctt     60
actgcctgta aggagtagaa ctgttagggc acactgttgc tatacagttt aactcccatt    120
ttcatgtttt gtctttcttt tcccatttct ggggcttacc tcctgatacc tgcttacttt    180
ctggaagtag tgggcaagta agatttggct cttggtttct aattttttaaa tttctgaata    240
ctgccctagt ctgaacttgg cctttataga ttaatctttg cttcacattt ttagtgttgt    300
atttaaacta ttttataatt taaaaataga ttctaatctg aagatacttt tcaagaaata    360
ttattaactg atgtcatcct catcccagca gctcatctgt taggaatgaa gttgagatgc    420
ttctattcca tgtttttgta tttgggaagg attcaaagtt gaaggtttat tgtcgttggg    480
tttttcagat ggtgacatgt aaactcagga tagcaaaccc taatgttcac acagtgctct    540
gcctctgcat ctcagttggg atagttgctc ctttttgagtg ttttaatcat cgtataacta    600
atcatagtgc caagaagttc ataatgtgtt atgtagctaa tgtcactgaa aaacagtcct    660
accatttttag gtaagaccaa acagagtctc taacccaagg acttgttaca cctgacaacc    720
tatagtatat ttgctttttc tcacaaaatg aaaccaattt tgccgaaagc tagctgggat    780
aataggatca tcacaagttg cagtttctat aactaaaatt agattgaaat ctcttctgac·   840
ctagaacatt ttacttcagg cattcagcag atttcagaaa gaattacctt attttaagtt    900
agtttctttg ttagtttact gtgtgtctct tattcaataa acaagcagaa tttgtgtcct    960
gccctatcca tgtcttaaag atgagaagtt ggatccactg agttagtttc attggggcgg   1020
gggaaagaac tgtaattaaa cttgtttaat ccttattttg tattgtagct attttttgta   1080
aaagcaactt aaaatctttt aaaaatttta tagtgacatt agagacaatg gtcatacaaa   1140
ttatcacata aacatggact tgaaaaatta ggcttttcat aaaacacatc acatgtcatt   1200
gactgctttt tagaaataca cttccaaggc agtacatctg tattgctact gaaaagtgcc   1260
atttcacaga acacagactt cttcttgctc tctgacatct tgaaaacatc tgttttttctt   1320
ttgtaataca aaactttgtg ctcaagacaa atcttacatg aaactctcat aaaccatgaa   1380
aatgtagctg gccttcgggc cttaggcatg aaataagcat gaggaacata ttcccctaac   1440
ttctaccccc agcccagcaa gttatccttt aagaaatctc ctaggaattc tggagtttga   1500
aaacaattgc tctatgttat tcctgcttcc agtctctaag taacaagggc atttaaaagc   1560
atagtctctt aaggtccact atagtggttc tttatttaag gaataactca gctgggtgca   1620
gtggctcacg cctgttatcc cagcactttg agaggctgag gcaagcagat cacttgaggc   1680
caggagttcg agagtctggc caacatggtg gaaacccatc tctacaaaaa atacaaaaat   1740
tagccaggtg tggtggcgtg cacctatggt cccagctatt gggaggctg aggcaggaga   1800
```

2669

```
attgcttgaa cctgggaggt ggaggttgca gtgagccaag attgtgccgc tgcactccag    1860
cctgggtgac agagtgagac tctgtctcaa aaaaaaaaa aaaagg                     1906


<210> 5743
<211> 1237
<212> DNA
<213> Homo sapiens

<400> 5743
gtagaatgcc atggagttaa tagcttctgt gatcctacat gttccaagat aactgcagca      60
gtccaaaaag ccagtttcct ttctggtgtt tgtgggcata cactttgttc tgctcctgag     120
taagtcacac tttgtcttcc aggtcctcta ggatccctgc aatgttccat ttgttgcctg     180
ggcattggag taatagcagt gcttggtgct acagaaatag atggatggaa gttgtggtta     240
ctgtgacacc aaaaacttgt cccctgagct ccctactcct ctttctccta tattttttgg     300
taattggctc tgtcattcac ctcactgcag gattcagaat cctggtactg ggtcttgtat     360
ttctcttttt cccttaccct ccttatccaa attgtcacca agttctgctt catgctctca     420
tgatttctca cctgagttac cctagtagct tccaaatagg ccctctgat ttcaaccttg      480
gacactccca ctatctttta tattatggaa agatctaatc atgttacccc ccatttaaaa     540
tccctcagag agcactgcag atacaattca agccagttag cttagtgtta aggttttaca     600
tgcatttctg cagccatctg cccctattct tgcaccctaa taatgccaaa cttcttttag     660
gccttaattt catcatctgc aaaatgagga taataaatag tacctacttc atatgattgt     720
aataaggccc ctcaaaactg tttcatgcct cttttgccca ctgcattagg ctgttctcac     780
attgctataa agaaatgcct gaggctgcgt aatttataaa gaaagaagt ttaattgact      840
cacatttcta caggctatac aggaagcatg atggtggcat ctgcttggct gctggggagg     900
gctcagaaaa cttacagtca gccgggcaca gtggctcact cctgtaatcc cagcacttgg     960
ggaggccgag gtgggcagat cacctaaggt cagaagttcg agaccagcct gtccaacatg    1020
gtgaaacctc atccctacta aaaatacaaa aattagccgg gtgtggtggg cggcacctg     1080
taactccagc tactcagaag gctgaggcag gagaatcact tgaacccagg aggtggaggt    1140
tgcagtgagc caagattgcg ccactgcact ccagcctgga caacagagtg ggactctgtc    1200
tcaaaaaaaa aaaaaaaaa aaaggaagc aagaaaa                               1237


<210> 5744
<211> 2853
<212> DNA
<213> Homo sapiens

<400> 5744
cttggccgca aggtcccct ttgcccagtc ggcggggagg aggccgtatt tctgctggcc       60
agagacgtcg cgtccctggc tgggcattca gtcaccccca ggaaaggagg caagtccacg     120
ctgggagtta gaaggcatcg cctctaatcc aggtttcgcc atctcctctg ctaagtgacg     180
tccagcaagt cacttcactt tcaggacctc aaatctcctc cccagtagta aaataggggt     240
aataaaaaca gctacagcgg aagactgttg tgaggcacag agaaagggct tggtcattgg     300
aagcgggttc caggttctca accttcattt ccttcacggt tgaaggacgc caaagaaagc     360
ggaaagggtg aattttcttg aaatctcagt tttggggaat cttagcgacg agtcgcggac     420
ctcagcttgt ccggcgctcc aaaacttccg gcaggcggac cggaagcact gaggcgggaa     480
gggtggtaga ggcccctcct gccggaaccc ggggggcggg gctcgtggct gttgcggatg     540
gggcgtaggt gggcggtgcg cccacagctg cctgggtaag gcccaagatg gctgtcttcg     600
ccttagtact cgtgtgaagt tggcggggac ggttcctgtc atcttcttgg gcttatttgg     660
tgtgctgttg aagggggggag actagagaaa tggcagggaa cctcttatcc ggggcaggta    720
ggcgcctgtg ggactgggtg cctctggcgt gcagaagctt ctctcttggt aagtggctga     780
tgtaggcacc ccgataactg cttcgtagta taataggcgg ctcagattaa ttccctccct     840
tccccatccc caggtgtgcc tagattgatc ggtataaggc tcactctccc gcccccaaa      900
gtggttgatc gttggaacga gaaaagggcc atgttcggag tgtatgacaa catcgggatc     960
ctgggtaaga cttgaccttc gacgtggtac acaatttcag aatggcaatt aggctgtaac    1020
gactatcttt tcctcctgtg tagagagtgg tactgtgctc aatagtaaga gcaaacactt    1080
atgtagctgt ttacattgtg tttggcactg ttctgagtcc cctcgtataa tttttacttc    1140
ataagtaaaa ataaacagtt tttccaaagt taataaatgg cagcatcaga attttaaccc    1200
caagcagtct ggctccagag tctgtgctat tgttctgtac tgtaatgttc cttgtctata    1260
ggtgctgctc agcaagatgc aaccgtgggt tgaaagctta gctggtgtag gatgagttct    1320
```

2670

```
cttgtcttgg atctaatgtg ttctctcaca ttacacagga aactttgaaa agcaccccaa   1380
agaactgatc aggggcccca tatggcttcg aggttggaaa gggaatgaat tgcaacgttg   1440
tatccgaaag aggaaaatgg ttggaagtag aatgttcgct gatgacctgc acaaccttaa   1500
taaacgcatc cgctatctct acaaacactt taaccgacat gggaagtttc gatagaagag   1560
aaagctgaga acttcggaaa aggctcatct gtcaccctgg agaagggaaa ctgtactttt   1620
ccctgtgagg aaacggcttt gtattttctc tgtaataaaa tggggcttct ttggaatttg   1680
atagccacat acttttgttt tcctctagat gctgcctcta ctcatgtaga ctatgaagtc   1740
ttgactcatc ctagatctta ggatcttagg tttgggcttc acaccacttg ccttttacag   1800
tctagctata cctaattcct ttaaaaagaa aagttggtga gaatgttatt ggcgcttttt   1860
gacataatgc tgttatgtta atagtgtttc taaagagcct tccacactga aatgaaatat   1920
aagagaaaaa tggagtcata cttctgtact actctcataa aatatttatt aggcatattc   1980
tctgagtagg aactatagga aaaacaaaaa agtgtgaggt gtcctttcca tttaaatatg   2040
aaacattaag taccatatga atggtagaga tggcggatac taagcctgac tggtcatcag   2100
ttttctgggt gttttaacat ttcaaaagcc tagtcctaac ccctaaagat tgatcagtag   2160
agctgagttg agtctagggc atctatgtgt tttgttcttt tttaataata attttttaaga   2220
attacagctg ggcagaatgg tgcccacatg taatcccagc attttgggag gctgaggtgg   2280
gaggattgct tggagacagg aatttgagac tggtctgggc gacatggtga aactccgtct   2340
ctactaaaaa taaagtggct gggtgcggtg gctcctgcct gtaatcccag caccttggga   2400
ggcggagggg ggcggaccac gagctcagga gatcgagact atcctggcta acacagccct   2460
gtctctactg aaaatacaaa aacaaacaaa caaaaaaatt agccaggagt ggtggcggac   2520
acctgtagtc ccagctactc aggtgtctga ggcaggagaa tcacttgaac ctgggaggtg   2580
gagcttgcag tgagccgaga tcgtgccact gcactccagc ctgagcaaca gagcaagact   2640
ctgtctcaaa aaaaaaaaaa aaacaactta gctgggcatg gttctgcatg cctgtagttc   2700
cagctactca tggttctgcg tgcctgcagt cccagctaca caagaggctg aggtgggaag   2760
atcacctgag cccaggagtt tgaggctgca gtgagctgag atcatgccac tgcattccag   2820
cctgagcaac tggggtgaga ctgtctcaaa aaa                                2853


<210> 5745
<211> 105
<212> DNA
<213> Homo sapiens

<400> 5745
aggctgaggc aggagaatcg cttgaactcg ggaggtggag gttgcagtga gccaagatcg     60
tgccattgta ctccagcctg ggcaccaaga gcgaaactct gtctc                    105


<210> 5746
<211> 787
<212> DNA
<213> Homo sapiens

<400> 5746
ctcatccaga gatgcactgg gcacagggaa agcttttttt ttcaagtagc agctgctatt     60
cattgaaatg ttacaatttt cctgccttag tatttcacac gtccttatac tcctcataac    120
atttttttgct tgtgtagttt tagccccatt tcagaaatga ggaacccagg ttcagaaggt    180
ttagaagctt gctcaagacc ccccagctat taggtgccag agctgcaact ggaatgcagc    240
tttgactcca ttgtgggttt ctgttccatt atcaagagta gcctgacagt tggcaataac    300
aatgactgaa tgaatgaata aatgaattct ccaaagaaaa tagttcatgt ttccctagta    360
tgagggaata cttgagatag ttgtttgag aagggggcca cagaccagga gacaccaata     420
agtctttctc atttctggta aatcgcttta taatgaccgt tattataaag tgtaaaaaca    480
acaacaacaa aaaataatag gcgcagtggt tcacacctat aatcctagca ctttgggagg    540
cagaggcggg cggatcattt gaggtcagga gtttgagacc agcctggcca acatgatgaa    600
accctgtctt tactaaaaac acaaaaatta gccgggcggt agtggcacgt gcctgtgtag    660
tctcagctac tcgggaggct gaggcaggag aatcacttga acccgggagg tgaaggttgc    720
agtgagccga gattgtgccc ctgcactcca gcctgggaga cagagccaga ctccatttca    780
aaaaaaa                                                              787


<210> 5747
```

2671

```
<211> 787
<212> DNA
<213> Homo sapiens

<400> 5747
ctcatccaga gatgcactgg gcacagggaa agcttttttt ttcaagtagc agctgctatt        60
cattgaaatg ttacaatttt cctgccttag tatttcacac gtccttatac tcctcataac       120
attttttgct tgtgtagttt tagccccatt tcagaaatga ggaacccagg ttcagaaggt       180
ttagaagctt gctcaagacc ccccagctat taggtgccag agctgcaact ggaatgcagc       240
tttgactcca ttgtgggttt ctgttccatt atcaagagta gcctgacagt tggcaataac       300
aatgactgaa tgaatgaata aatgaattct ccaaagaaaa tagttcatgt ttccctagta       360
tgagggaata cttgagatag ttgttttgag aagggggcca cagaccagga gacaccaata       420
agtctttctc atttctggta aatcgcttta taatgaccgt tattataaag tgtaaaaaca       480
acaacaacaa aaaataatag gcgcagtggt tcacacctat aatcctagca ctttgggagg       540
cagaggcggg cggatcattt gaggtcagga gttcgagacc agcctggcca acatgatgaa       600
accctgtctc tactaaaaac acaaaaatta gccgggcggt agtggcacgt gcctgtgtag       660
tcacagctac tcgggaggct gaggcaggag aatcacttga acccgggagg tgaaggttgc       720
agtgagccga gattgtgcca ctgcactcca gcctgggaga cagagccaga ctccatctca       780
aaaaaaa                                                                787


<210> 5748
<211> 222
<212> DNA
<213> Homo sapiens

<400> 5748
cacagctgcc tctatccgag tggtctgtgc agggcgccag cagccaccct gatggagggc        60
aggtctctaa aagcagcatc ctttgccagg cacctgagaa ttttaaagtg aggatgcatc       120
tgtggcatca tcttcctaaa ccaaatgatg tgtaattgca tagttgttga actgtgtggt       180
tggtctattt ctagcagagt agctacctga gaggaaatga ga                         222


<210> 5749
<211> 222
<212> DNA
<213> Homo sapiens

<400> 5749
cacagctgcc tctatccgag tggtctgtgc agggcgccag cagccaccct gatggagggc        60
aggtctctaa aagcagcatc ctttgccagg cacctgagaa ttttaaagtg aggatgcatc       120
tgtggcatca tcttcctaaa ccaaatgatg tgtaattgca tagttgttga actgtgtggt       180
tggtctattt ctagcagagt agctacctga gaggaaatga ga                         222


<210> 5750
<211> 4454
<212> DNA
<213> Homo sapiens

<400> 5750
atgattaatc actaaacagg tattgcataa aatagcaatt ttcagctctg gattttgggg        60
aagggagtag aggctggaaa tgtaggtgga gagtcaggct ggggagagat gccacattcg       120
caacattggg ttttttacaa tagtactgca tctatctctg tgcaggagtc taaaagtggt       180
tggaagctac atttaggatt atttaaaata acatactgcc ttatttttat ctctgtagca       240
acaacttttt gtaagaaaaa tagctagttc catgatcttt tgccttttga aaaggagaga       300
tctattttaa actctttgca ggctcctcga agttcctttt cttgctgttg agtagcaggt       360
agaatctcta gttcatggag gtctgacgga tccatggtcc cgtgctggtc catgtgctgc       420
cctctgcttc cgtccctcat ccttgccact ctcaacagtc ttccccgaca acccttagga       480
agacaagggc ttggaggagg gggaggactg agtgtccctg gcatgttctg attaatccta       540
ttcattgtca agtacagctt tttaatgaac tgattcatta ctgagagtag gtctcatgca       600
```

```
aatccctagt ttgtatcctg tggatttaat ttctaacaat ttcctcattt caacacaact     660
ccattgtacc atgggctttg tgattttgtt ctaatatagaa gcttgacctc acattttaag     720
actataagat gaatactaaa aaaacgaaat ccttaaaata aaaaataaac tagaagaaca     780
tgtaggtgga tattcaactc ctctctaaag gaagaagggt tgtccacaca taaaagtttt     840
ggaagagact gggtttagtg gctcacgcct gtaatcttag cactttggga ggctgaggta     900
ggaggatcac ttgagcccaa gagttcgaga ccagcctggg caacataatg ataccctgtc     960
tctacaaaaa ttaaaattag ccaggcatgg taatgcacac ctgttgtcac ctgtggttgg    1020
gaggctgagt gggaggatcg cttgagccca gaaggttgag gcttcaggga gccatgattg    1080
caccactgca ctccagtgta ggtgacagag caagaccctg tctccaaaaa aaaaaaaaaa    1140
aaaaaagaaa ttctggaaga aatgacagag gaaatcactg ataaatttcg aaacataagt    1200
ttgtgcaata tcagagacaa atttaacaaa tatgtaaaat ttgcctccat tatgagttaa    1260
tataaaacta tgaagagttc aggagattat aaaaagagac aaagacaacc aggagaaaac    1320
agataactta atacttttta aaaaaacacc aggctaacaa aaaagaaata tatagttgac    1380
taaataaata tagcacaata tatttaaccc tacaaatttc aactaatgca atgaaaacat    1440
aatagcagct tttcaactgt tattattacc agaaagaaaa atattttaaa atgctattgt    1500
ggttttggtg agggaacatt tttcatgccc tgttgtttga gagtagaatt cagtgcaccc    1560
tttctggaaa gcagtttggt aacctgtaat acttctttta aaaaaaaatt catcctcttg    1620
tctaaaaatt tctcctctag aaacttaaag ataatagtca agtgaaaaca catttatggg    1680
cagtgtttaa agttttgtga gtgaaactgt tgataagaac ctattacaat ggttaagcca    1740
cctggaacat tctattgata tattatgcag ccttggaaaa tagtactttt aaggaatgtt    1800
aataagatgg gcaatacaaa actgaatgaa aatccaatac agaattctgc ctacataaca    1860
tgatccaaat tttgcctaaa gtttgcctaa aacgtgcata gcaaagaat ttcgggaact    1920
acaccagaat gttagcatgg gtccatcatt tctgagctgt ggtgttactg gcatgactct    1980
tgttttcctt gtttattctt ttatgttata ttaaggtgac cacctgttcc cgttggcctg    2040
gtactgccct ggttttagca ctggaagtcc tactctggac aattaatgat tcgtgtgtgt    2100
gtgtgtgtgt gtgtgtgtgt gtgtgtacac attaaggtga ggttgtgccc atttgaaagg    2160
aagggccaaa gataaagtga caagctcatg gggcctgtgt ggtagtcagg cagtagattt    2220
ttttttttttt ttttgagatg gagtctcgct ctgtcaccca ggctggagtg cagtggcatg    2280
aacctggctc actgcagcct ctgcctccca ggctcaagcg attctcccac ctcacctgcc    2340
caagtagctg ggactacagg catgcacccc cacacccagc taattttatt ttgcattttt    2400
tgtagagacg gggtttttaca tgttgcctag ctggtctca aactcctgag ctcaagtgat    2460
ccactacctt ggcctcccaa agtgctggga ttacaggcat gagccactgt gcttggccca    2520
gggagtagat tttctgatga taaaattaac gtgacttgtt ctagaaaata cagggaaaga    2580
gtaaatgtgc aaagacttaa atagcattta catgtagccc acagtgctct aaatgctttt    2640
ggtggttcac agtttaatca tcataaccct atgaactaga tactgttgtt gcatccccat    2700
ttacagaggc atagagacat ggagtaattc acccatagcc acacagccct tgacagaatc    2760
tggatttgaa ctcaggcagt tcggatccag agtctgggcc attgaccacc tcctgcatct    2820
ctgtagatcc ccgactccag cctctcctct tgctgcctct ctcaacagta acgatgctgt    2880
tactccccac gccaaacctc tgggctggcc aggctcactc cagtcccaca gtcattgcca    2940
ggactgcctt tgaccttaca cagaggaaac atcttccacc tgtcgggagg gagccggggc    3000
ggggatttcc atggcagagt tactgttctc tggtgataga gttctttcag ttttgctaca    3060
tggtcttgtg gcaaaggact gggtgcaggt gcagccttgg ttatttctgg aaacacttct    3120
ccttttcttt tattttgcca ggtctggctc atcagtcacc ttcctctcag aaaggtgatt    3180
ttggctcctc tgcccagacc atcaaacatt tctggaggtg tcacaagctt ccgtgagggt    3240
tctggtctct gcgaattgca ggaagaatcc aaacatagga aaggggtgat gtgtatcagg    3300
gtgtccatcc tcagctttgc tccacaaaga ccctcacact tgcacattgt tttgttaaca    3360
gtattatctc tgagtagtgg gtttattgtt tttgcttacc tgttttaaac acttcttcaa    3420
caaacttgct ttactttcca ttttttaaaa gtgtatttca attttttatt aataatgcca    3480
ttttactcct gcaaaatttc tcactccttc aaagtctgtg tatggcaaag atcttcctaa    3540
ccatcattca agttagagca actccatttc tgtatcaaaa agaaatacct ttagttattg    3600
tctgaacttg tcagaatttc tgagaacgat gccagaaatt ctataattgt tttgtcacat    3660
taattgaaca atgagagggc accagcattc ctcactcatg aggtagaagc accacatcta    3720
catttctttt tagctatggg tgatgttttt gctttttaaat cttagaaatc tgttaataaa    3780
caaataacac aacaaagttt ggggtacttc cttgtgggga ctgggatgct taagctaaaa    3840
caaagtttaa atttggactg tgtgtgttat gtttcgcaga atctatatgt ttctcaaaag    3900
tgggtgtcac cctccttcct cccccaacac acccttcagg ggtaagagga gaagtaatgt    3960
agaaaaatta actgtttctc cactgtaaaa gtagggtgtc tttagaatgt ttcatgttca    4020
aaggaaagat tgtgcttctc ccaaggcaag gtgttccctt aaaaaaaaaa aaaaaaaagg    4080
ttgagcatgt ctttgtattg ctgtctctgg aagaggaaat gaggcatctc ttggggtgag    4140
aacaagggag aattgaactc tcgggcctgg ccagatggat tcctcacact ggcacagagc    4200
tgtgaaggga agggcctttc atcctccaga ggaaagaggg ctggggtctc agaggccaga    4260
```

2673

```
gcatagggac aggcaggagt cctgcagccc tgatgcctgc ccctcccagt acagaatctc    4320
tgtcctgacc cccacctgtt gaacctttca aatcccagtg actcgccagc tttctctgtg    4380
gatattggct gaattggtgg cttgtgtggc tgcctgggag agcaatttac ccctgagcca    4440
aggaggggggt gggc                                                     4454


<210> 5751
<211> 428
<212> DNA
<213> Homo sapiens

<400> 5751
cagaagacat accagtcaat gggttcttga aatagtcaag gaatgtggca attcacgctg      60
gatgtggaag gtggaaggaa agacaagtgt tagcaaatgc agacctgtct gctgtggaac     120
ttgaagacct tgctagtagt caggctgctt cctggcattc caggcctgag aggcttctat     180
tttgactcaa agcaaaaaca aatgctatgt taatgtcttc ctatgtgtcc ccttcataag     240
attttggtga aatcatatta aaagtgcatt tctcagtatc actctcagtt atttagagat     300
ttcagttccc cagtaccctg gcaagggatt tgacgaacgt agcaagaacg tcgtgaactt     360
tgagctaatt tatatcattg ttcatttgtc tgtttaataa ataaaagcaa gaaaaccaga     420
gcaacaaa                                                             428


<210> 5752
<211> 428
<212> DNA
<213> Homo sapiens

<400> 5752
cagaagacat accagtcaat gggttcttga aatagtcaag gaatgtggca attcacgctg      60
gatgtggaag gtggaaggaa agacaagtgt tagcaaatgc agacctgtct gctgtggaac     120
ttgaagacct tgctagtagt caggctgctt cctggcattc caggcctgag aggcttctat     180
tttgactcaa agcaaaaaca aatgctatgt taatgtcttc ctatgtgtcc ccttcataag     240
attttggtga aatcatatta aaagtgcatt tctcagtatc actctcagtt atttagagat     300
ttcagttccc cagtaccctg gcaagggatt tgacgaacgt agcaagaacg tcgtgaactt     360
tgagctaatt tatatcattg ttcatttgtc tgtttaataa ataaaagcaa gaaaaccaga     420
gcaacaaa                                                             428


<210> 5753
<211> 428
<212> DNA
<213> Homo sapiens

<400> 5753
cagaagacat accagtcaat gggttcttga aatagtcaag gaatgtggca attcacgctg      60
gatgtggaag gtggaaggaa agacaagtgt tagcaaatgc agacctgtct gctgtggaac     120
ttgaagacct tgctagtagt caggctgctt cctggcattc caggcctgag aggcttctat     180
tttgactcaa agcaaaaaca aatgctatgt taatgtcttc ctatgtgtcc ccttcataag     240
attttggtga aatcatatta aaagtgcatt tctcagtatc actctcagtt atttagagat     300
ttcagttccc cagtaccctg gcaagggatt tgacgaacgt agcaagaacg tcgtgaactt     360
tgagctaatt tatatcattg ttcatttgtc tgtttaataa ataaaagcaa gaaaaccaga     420
gcaacaaa                                                             428


<210> 5754
<211> 7337
<212> DNA
<213> Homo sapiens

<400> 5754
gtgtgcctgg atgattgata gcttcggaaa tgaggaacag aggcacaaat tttgcccacc      60
```

2674

```
gctctgtacc atggagaagt ttgcttccta ctgcctcact gaaccaggtg aatttgccac  120
actgcactga gatatagcag ggagagatgc ttcctgctca gatggcatta ccgagcactc  180
cttccagcct cttgacatgt cgagccactg tttatctagc tgtttggttg aggagtaata  240
gagtcctgtg acctgatgtc acaaggacca agaagctatc tggtgtgttg ggaggtaggc  300
agtggcctga ctggtatgag cagtttccac caagtacaga gagttccttt ggccacttgg  360
gttttgcagt gacacactct gagcagggtc tgtttagaga agatttccta gaagatagaa  420
ttgtgctggg ctccctcgac ctcactgact ttctcacctt ctctctgctg ccttttgatc  480
cctcctcagg aagtgggagt gatgctgcct ctcttctgac ctccgctaag aaacagggag  540
atcattacat cctcaatggc tccaaggtac tagcgtgcgt cctcccagag cactttggag  600
attgttccca gcttcctcct gacatcctct ggttccttca catccgcggg ttaatactcc  660
cataggdattt ttatgtgttg ggaagagaac ctctgaccca tttctctttc tttattctca  720
ctgtttgtat ctctcctaat ctgattccag atcatttcgt tgactttgt ctatcctttt  780
tatactctct tggactgcct ctctgatctg cagtcactgc agcgaccttt acctcacct  840
cagtctctgt gccattggac cttattgtca gtctctgtgc cattggacct tattgtcagt  900
ctctgtgcca ttggacctta ttgtcagtct ctgtgccatt ggaccttatt gtcagtctct  960
gtgccattgg accttattgt cagtctctgt gccattggac cttattgtca ggaggaccca  1020
gtggtgttcc cagacgctgt gagaactcaa gcattccctg tccttttgc accccttta  1080
cccccacagg ccttcatcag tggtgctggt gagtcagaca tctatgtggt catgtgccga  1140
acaggaggac caggccccaa gggcatctca tgcatagttg ttgagaaggg gacccctggc  1200
ctcagctttg gcaagaagga gaaaaaggtg agtggctgtt ggacaggaaa caattcaggt  1260
tatgagactc tgccacctgc cagcccaact cctgctctat ttcagaaaac aggtttgcat  1320
acttgctaac ctacctttga agcagttgct tctattagga ttttcaacag gagcatatga  1380
aatacaacag ggcattatta aacactaggc ctctggggaa agtgacaatg tttgccagta  1440
aattcttcaa gccacctgtg agtgttctga cctctcctgc ctctgctttt ggcctgtgtt  1500
ccttatccag ctgcttacgt tggtgcactt tgttgctcca ggaagagacg cttagagaag  1560
acctggtgtt ggccacaagt ctcagtaatg gaaggcgtgt ggtcccttt gcttctttga  1620
ttaaaaataa agtaaaactc attggagatg attgtgggta tttcagcaac ccaagaagga  1680
cacttaggta ctgtaagtaa tttgaaaagt aagatacttc taggattaag agccgccatg  1740
gccagggcat gaacaggaga cctgtgatca tgtaaccgta attggtaata agggctcaag  1800
acccattcag attttttaga ccagatgctc aaagcagtca tctctctcta gtttgtactg  1860
ttatgggggg actttgtgag agaaggcagg taatgaaatg acccctaagt gtacctcttt  1920
ctcacagctc ctcgggtttc tgtatttttcc tacaggatcc ttcctgatcc tctgtaactg  1980
taaggcatta tgcattttag catcccttc tctttggtaa cacagcaacc atttcctagg  2040
cttctactgt gtgtgaagcc catgctaact cctgggcagg aagaccttca gtaaaaggct  2100
tagaaatgga gtttatccta tcaacaaaag agagcaagga aatgatgtaa aggcagtcta  2160
ttttcagagc cagagaggaa ctgggagatt gtagatagtt tgtggttttc aattagaggc  2220
actgaaattg ggggcagttg gtgtcacaat cctaaaagaa gttgtgagaa gtgtttgtag  2280
gttagtcagg tagagtagac attagtagat tctcttaata agttagaaaa tgtttagctg  2340
aaacaggtat ctttctgagt gctgacaggc ctttaaacct gaactttttc tttttcctca  2400
ttttaagttc ttgtgggtct aagtcttggg tgctgaaacc cataccTcac aggctcccgt  2460
ccccagggaa ggccgcccta cctgctggat tgttgggcaa ccacgcagtc cctgattttt  2520
gccaggtggg gtggaactcc cagccaacac gagctgtgat cttcgaagac tgtgctgtcc  2580
ctgtggccaa cagaattggg agcgaggggc agggcttcct cattgccgtg agaggactga  2640
acggagggag gatcaatatt ggtgagatac gcaggggtgt ggcagggagg tagcggtccg  2700
ggacaggcac tgctgttttc cagcttggtt ggaacgtcgg cgctcttccc ctctagcttc  2760
ctgctccctg ggggctgccc acgcctctgt catcctcacc cgagaccacc tcaatgtccg  2820
gaagcagttt ggagagcctc tggccagtaa ccaggtaacc tctgccttgc ctccacatgg  2880
ctttgcacta tttgcagccc gggacctgct ctagggccca catttccagg agagaagcca  2940
ggaaattcct ctgtcagtcc caccactgtc ctagccagag cttgtgcttt atttctgtcc  3000
atcttttctt gggatatctt taacgatatt aaagtgtcgg gtgagtgaag tggacttagc  3060
acttaaaagc aataaatttc ctctatagaa aaagcaagag actttgaagc tttggatcac  3120
ttagaaaagg cgcctccgag atgtcttacc gaggctcctg caccaggtgc tggtctaagc  3180
ccctcagtct tgtctggttc tctgctccct gtgctgcagt acttgcaatt cacactggct  3240
gatatggcaa caaggctggt ggccgcgcgg ctgatggtcc gcaatgcagc agtggctctg  3300
caggaggaga ggaaggatgc agtggccttg tgctccatgg ccaagctctt tgctacagat  3360
gaatgctttg ccgtaagtga ttcctctggc tctcctggga tggacaggga acagctgcta  3420
ggcccagggg tcttgagaga catgagtcag atttggaacc cagccctcct ggaatcccac  3480
aaggatcacc ttaagcttaa ggatataaat gaactcatga gcggcctatg tgggagctct  3540
catcgctggc ttttaggcct gctgcatgcc attatacact tcattatgtc actgttgttt  3600
ggttgtgttc taggcgagaa accacctttg gaaggttcac agcagcccca atttagcact  3660
ctgccatgtt tacattgtca ggctgcattg ccactagggg gaaccatagc tttttatcat  3720
```

2675

```
cccagccagg gtggctgtgg gcagcttctg cctggcaggt aataagggag aggggcagag  3780
ggctttgagt cgcctgtctg gggggaactg acaagtttag taggtgaact tcccttgtct  3840
ctaaccatac agaatgtgga ggccctcttt gagcttggct gtttgtggtt ctttcatggg  3900
tttatggcgg gctgccagat cgtgggctgg ggtaggaagg gaagctgctt gctccacagt  3960
cttcccagag tccaagacgt ctagtccctg tctccctgca gatctgcaac caggccttgc  4020
agatgcacgg gggctacggc tacctgaagg attacgctgt tcagcagtac gtgcgggact  4080
ccagggtcca ccagattcta gaaggtaaaa attgccagag gttattctct tcccttcaga  4140
acggggacgg gatcgctgct ttccccactc tctgtcccca tgcctcctgg gcctcagggt  4200
gcagtcaagc cctgtctgtc tcgaggcttc ctcctccctc ccgttccaca gagctgttct  4260
ggcagggggcc tggagtccag agccgcagct tcgtcccttt cggggggcct cagatcgctc  4320
tgctgctgcc ctttttcctct ggagatctgc gagaagggtg aactgagata atggatgaga  4380
aagcatgttg aaaaccacag ccggggcttt tctctaaggt tatcgagtac gtggttctca  4440
gggatccaag aacagtgatg gacaaggcaa atgtgagcca gtatggtcat cagtagctct  4500
atattgatta tcagccagat ggcctaaaag atacctgtct caatattact agtgtatttt  4560
tcaataaaat aaaccatcac tatatgggta tcttcttggt agtcacagac attctatcga  4620
ggaaacatgg aagccgttgg ggtcgggctc ggagcctggc tgtctccact ctctacagcc  4680
agtgcggaag tcttgaaatg acacgactct tggaaaagca ggaggggcag aggcttcttt  4740
gagtgacttc ggtgaagcaa cgtgaggctg ccttgctgga aacattatat aatggggctt  4800
ccctgcccct ttcacagcac ccttctcaaa cctcagcctg tgctggaatc gcctggaggg  4860
catgggagcg cagattgcgg gcctcaaccc cagagcttct gctccagagg gtctagtgtg  4920
ggcctgggaa tttgtatctg caacaagtct tcaagtgagg ctgccacagc ttgtctgaga  4980
accacacttt gagacccacc gctctggtgt taatgtcaga gtcacaggct accacaggtt  5040
agaccgctgc tttcttctgc aaacctcatt ccagaaagat gtttatgggc tcagtcgcca  5100
gtgttcaaac tgaattcccg agagtcgttt tccttccatt actcttggaa ttgctttctc  5160
actgagcttt atgtgcgtag gaaacttcgc cttcattcta actctctctc caccctgcaa  5220
taataagcag gaaaacattt attgtaggcc acaccatcac ccacttacag aagaattggg  5280
gcactcatca ctgtatcact ttgtttcatc atggacttta ctgttggata aatctacagt  5340
ttatgcttta tttgagacga tgtgactact gattcctcga gggggtttat atttcttttt  5400
gcattaaagg ccactgctaa aaatgaagca aataattgat accctccttt cagggaaaat  5460
gttttcattc ttttgtaagt cagttttctg attaccaaag aaatgtgtat ttattgttga  5520
aaccttataa aattaggaaa agtaggctgg gtgcggtagc ttatgtctat aatcgccgca  5580
ctttgggagg ctgaggcggg tggatcgcgt gaggccagga gttcgagacc agcttggcca  5640
acccggtgaa gccccgactg tctaaaatta taaaaagtta gctgggcgtg gtggtgcatg  5700
cctggaatcc cagctactcg agaggctgag gcaggaagat cgcttgaacc caggaggtgg  5760
aggttgcagt gagctgagat tgcaccatcg cactccagcc tgggtgacag tgagactcca  5820
tctaaaaaca atacaaaaaa ttagccgggc ctggtgggggc ctggtggcac atgcttgtgg  5880
tcccagctac tcaggaggct gaggcaagag aattgcttga acctggggggg cggaggttgc  5940
agtgagccaa gatcacacca ctgcactcca gcctgggcga cagcaagact gtctcaaaag  6000
aaaagtaaaa gaaaaaaaat cactcatgtt tctacatcca gaatgttatt ttggtacatc  6060
tccttttagg catttttactc tgcctttgtt ggtacatttt taattttaat tagaattatc  6120
ctgtatatac tgttttttatt ctgcctttttt aaactttata taagcatttt taccatcaga  6180
agaagttttt aaaaaagtat tatttcctga cattttttcag tactttgtag agaagtctct  6240
gataatctca tctctcccag gctaaaagca atgattgtag tttaaatctg cagctactct  6300
gaactaggcc tggagcagcc tggtcagagc tttactaaac tctcagactt tgctgctgtg  6360
aaattcttcc tccttcctcc ctcttacagg tagcaatgaa gtgatgagga tactgatctc  6420
tagaagcctg cttcaggagt agaacccaca cttgttctgg cctggtgttc agtgcgactg  6480
cagtcagtgt tgagtggtgc catgtgggcc gctctattcc aaaggaatca tggattagac  6540
ccaagggctg agctcctcta gggcaggacc tgcacctgt gtgttggcac cagcatcggg  6600
tcttggactg gggcagaatc cccagtggaa ccggaagagc tggactgatg agaaacatca  6660
gaagaacaca tactaccttg ttttcctaat gccagaaggg tgaccagtga agattcaccg  6720
tcaaaccatg aaagtccttt cttggatcca ctttatcttg attagtctgc attttactag  6780
ttcactggat ccctcctcta ggggcctggg gactttcact gatgctcttc ctgattctag  6840
agcaaaggtg tgggaagggg aaatggagga atgccctcct gtctgtgtcg ttctctgtgc  6900
cacagctaca gatgcagaag gtttctctgg atagcacacc tctgaatgta aatcatgata  6960
aaatggatat ttggaaactt actcctaagc tgtgatttag ggtgtatttc tacttctgga  7020
ctgcctcaat atcaagggct gagacttttg aattttgaat attcgttggg tttcatgtta  7080
agaagcctgt ggtctaggag tgctattcag tgtttctttt cctgataaac actttgaata  7140
ttttttttgt gttttgttt ccttttctga agctgttcct ccttttaaat atttttaatc  7200
acattgataa aatctatcct tcaccacctc tggttctact atagttgatt tttattttaa  7260
atgtttaatt gtatttgatt aaacacttaa ctggatttatg gaataataaa actctcgtcc  7320
aatttggctt ttaaaaa                                                 7337
```

2676

<210> 5755
<211> 7366
<212> DNA
<213> Homo sapiens

<400> 5755

```
gtgtgcctgg atgattgata gcttcggaaa tgaggaacag aggcacaaat tttgcccacc    60
gctctgtacc atggagaagt ttgcttccta ctgcctcact gaaccaggtg aatttgccac   120
actgcactga gatatagcag ggagagatgc ttcctgctca gatggcatta ccgagcactc   180
cttccagcct cttgacatgt cgagccactg tttatctagc tgtttggttg aggagtaata   240
gagtcctgtg acctgatgtc acaaggacca agaagcctat ctggtgtgtt gggaggtagg   300
cagtggcctg actggtatga gcagtttcca ccaagtacag agagttcctt tggccacttg   360
ggttttgcag tgacacactc tgagcagggt ctgtttagag aagatttcct agaagataga   420
attgtgctgg gctccctcga cctcactgac tttctcacct tctctctgct gccttttgat   480
ccctcctcag gaagtgggag tgatgctgcc tctcttctga cctccgctaa gaaacaggga   540
gatcattaca tcctcaatgg ctccaaggta ctagcgtgcg tcctcccaga gcactttgga   600
gattgttccc agcttcctcc tgacatcctc tggttccttc acatccgcgg gttaatactc   660
ccataggatt tttatgtgtt gggaagagaa cctctgaccc atttctcttt ctttattctc   720
actgtttgta tctctcctaa tctgattcca gatcatttcg ttgactttg tctatccttt    780
ttatactctc ttggactgcc tctctgatct gcagtcactg cagcgacctt ttacctcacc   840
tcagtctctg tgccattgga ccttattgtc agtctctgtg ccattggacc ttattgtcag   900
tctctgtgcc attggacctt attgtcagtc tctgtgccat ggaccttat tgtcagtctc    960
tgtgccattg gaccttattg tcagtctctg tgccattgga ccttattgtc agtctctgtg   1020
ccattggacc ttattgtcag gaggacccag tggtgttccc agacgctgtg agaactcaag   1080
cattccctgg tccttttgca ccccttttac ccccacaggc cttcatcagt ggtgctggtg   1140
agtcagacat ctatgtggtc atgtgccgaa caggaggacc aggccccaag ggcatctcat   1200
gcatagttgt tgagaagggg acccctggcc tcagctttgg caagaaggag aaaaaggtga   1260
gtggctgttg gacaggaaac aattcaggtt atgagactct gccacctgcc agcccaactc   1320
ctgctctatt tcagaaaaca ggtttgcata cttgctaacc tacctttgaa gcagttgctt   1380
ctattaggat tttaacagg agcatatgaa atacaacagg gcattattaa acactaggcc    1440
tctggggaaa gtgacaatgt ttgccagtaa attcttcaag ccacctgtga gtgttctgac   1500
ctctcctgcc tctgcttttg gcctgtgttc cttatccagc tgcttacgtt ggtgcacttt   1560
gttgctccag gaagagacgc ttagagaaga cctggtgttg gccacaagtc tcagtaatgg   1620
aaggcgtgtg gtcccttttg cttctttgat taaaaataaa gtaaaactca ttggagatga   1680
ttgtgggtat ttcagcaacc caagaaggac acttaggtac tgtaagtaat ttgaaaagta   1740
agatacttct aggattaaga gccgccatgg ccagggcatg aacaggagac ttgtgatcat   1800
gtaaccgtaa ttggtaataa gggctcaaga cccattcaga ttttttagac cagatgctca   1860
aagcagtcat ctctctctag tttgtactgt tatgggggga ctttgtgaga gaaggcaggt   1920
aatgaaatga cccctaagtg tacctctttc tcacagctcc tcgggtttct gtattttcct   1980
acaggatcct tcctgatcct ctgtaactgt aaggcattat gcattttagc atccccttct   2040
ctttggtaac acagcaacca tttcctaggc ttctactgtg tgtgaagccc atgctaactc   2100
ctgggcagga agaccttcag taaaaggctt agaaatggag tttatcctat caacaaaaga   2160
gagcaaggaa atgatgtaaa ggcagtctat tttcagagcc agagaggaac tgggagattg   2220
tagatagttt gtggttttca attagaggca ctgaaattgg gggcagttgg tgtcacaatc   2280
ctaaaagaag ttgtgagaag tgtttgtagg ttagtcaggt agagtagaca ttagtagatt   2340
ctcttaataa gttagaaaat gtttagctga aacaggtatc tttctgagtg ctgacaggcc   2400
tttaaacctg aacttttct ttttcctcat tttaagttct tgtgggtcta agtcttgggt    2460
gctgaaaccc atacctcaca ggctcccgtc cccagggaag gccgccctac ctgctggatt   2520
gttgggcaac cacgcagtcc ctgattttg ccaggtgggg tggaactccc agccaacacg    2580
agctgtgatc ttcgaagact gtgctgtccc tgtggccaac agaattggga gcgaggggca   2640
gggcttcctc attgccgtga gaggactgaa cggagggagg atcaatattg gtgagatacg   2700
cagggtgtg gcagggaggt agcggtccgg gacaggcact gctgttttcc agcttggttg    2760
gaacgtcggc gctcttcccc tctagcttcc tgctcccctgg gggctgccca cgcctctgtc   2820
atcctcaccc gagaccacct caatgtccgg aagcagtttg gagagcctct ggccagtaac   2880
caggtaacct ctgccttgcc tccacatggc tttgcactat ttgcagcccg ggacctgctc   2940
tagggcccac atttccagga gagaagccag gaaattcctc tgtcagtccc accactgtcc   3000
tagccagagc ttgtgcttta tttctgtcca tcttttcttg ggatatcttt aacgatatta   3060
aagtgtcggg tgagtgaagt ggacttagca cttaaaagca ataaatttcc tctatagaaa   3120
aagcaagaga ctttgaagct ttggatcact tagaaaaggc gcctccgaga tgtcttaccg   3180
```

2677

```
aggctcctgc accaggtgct ggtctaagcc cctcagtctt gtctggttct ctgctccctg   3240
tgctgcagta cttgcaattc acactggctg atatggcaac aaggctggtg gccgcgcggc   3300
tgatggtccg caatgcagca gtggctctgc aggaggagag gaaggatgca gtggccttgt   3360
gctccatggc caagctcttt gctacagatg aatgctttgc cgtaagtgat tcctctggct   3420
ctcctgggat ggacagggaa cagctgctag gcccaggggt cttgagagac atgagtcaga   3480
tttggaaccc agccctcctg gaatcccaca aggatcacct taagcttaag gatataaatg   3540
aactcatgag cggcctatgt gggagctctc atcgctggct tttaggcctg ctgcatgcca   3600
ttatacactt cattatgtca ctgttgtttg gttgtgttct aggcgagaaa ccacctttgg   3660
aaggttcaca gcagccccaa tttagcactc tgccatgttt acattgtcag gctgcattgc   3720
cactaggggg aaccatagct ttttatcatc ccagccaggg tggctgtggg cagcttctgc   3780
ctggcaggta ataagggaga ggggcagagg gctttgagtc gcctgtctgg ggggaactga   3840
caagtttagt aggtgaactt cccttgtctc taaccataca gaatgtggag gccctctttg   3900
agcttggctg tttgtggttc tttcatgggt ttatggcggg ctgccagatc gtgggctggg   3960
gtaggaaggg aagctgcttg ctccacagtc ttcccagagt ccaagacgtc tagtccctgt   4020
ctccctgcag atctgcaacc aggccttgca gatgcacggg ggctacggct acctgaagga   4080
ttacgctgtt cagcagtacg tgcgggactc cagggtccac cagattctag aaggtaaaaa   4140
ttgccagagg ttattctctt cccttcagaa cgggggcggg atcgctgctt tccccactct   4200
ctgtccccat gcctcctggg cctcagggtg cagtcaagcc ctgtctgtct cgaggcttcc   4260
tcctccctcc cgttccgcag agctgttctg gcaggggcct ggagtccaga gccgcagctt   4320
cgtccctttc ggggggcctc agatcgctct gctgctgccc ttttcctctg gagatctgcg   4380
agaagggtga actgagataa tggatgagaa agcatgttga aaaccacagc cggggctttt   4440
ctctaaggtt atcgagtacg tggttctcag ggatccaaga acagtgatgg acaaggcaaa   4500
tgtgagccag tatggtcatc agtagctcta tattgattat cagccagatg gcctaaaaga   4560
tacctgtctc aatattacta gtgtattttt caataaaata aaccatcact atatgggtat   4620
cttcttggta gtcacagaca ttctatcgag gaaacatgga agccgttggg gtcgggctcg   4680
gagcctggct gtctccactc tctacagcca gtgcggaagt cttgaaatga cacgactctt   4740
ggaaaagcag gaggggcaga ggcttctttg agtgacttcg gtgaagcaac gtgaggctgc   4800
cttgctggaa acattatata atggggcttc cctgcccctt tcacagcacc cttctcaaac   4860
ctcagcctgt gctggaatcg cctggagggc atgggagcgc agattgcggg cctcaacccc   4920
agagcttctg ctccagaggg tctagtgtgg gcctgggaat ttgtatctgc aacaagtctt   4980
caagtgaggc tgccacagct tgtctgagaa ccacactttg agacccaccg ctctggtgtt   5040
aatgtcagag tcacaggcta ccacaggtta gaccgctgct ttcttctgca aacctcattc   5100
cagaaagatg tttatgggct cagtcgccag tgttcaaact gaattcccga gagtcgtttt   5160
ccttccatta ctcttggaat tgctttctca ctgagcttta tgtgcgtagg aaacttcgcc   5220
ttcattctaa ctctctctcc accctgcaat aataagcagg aaaacattta ttgtaggcca   5280
caccatcacc cacttacaga agaattgggg cactcatcac tgtatcactt tgtttcatca   5340
tggactttac tgttggataa atctacagtt tatgctttat ttgagacgat gtgactactg   5400
attcctcgag ggggtttata tttctttttg cattaaaggc cactgctaaa aatgaagcaa   5460
ataattgata ccctcctttc agggaaaatg ttttcattct tttgtaagtc agttttctga   5520
ttaccaaaga aatgtgtatt tattgttgaa accttataaa attaggaaaa gtaggctggg   5580
tgcggtagct tatgtctata atcgccgcac tttgggaggc tgaggcgggt ggatcgcgtg   5640
aggccaggag ttcgagacca gcttggccaa cccggtgaag ccccgactgt ctaaaattat   5700
aaaaagttag ctgggcgtgg tggtgcatgc ctggaatccc agctactcga gaggctgagg   5760
caggaagatc gcttgaaccc aggaggtgga ggttgcagtg agctgagatt gcaccatcgc   5820
actccagcct gggtgacagt gagactccat ctaaaaacaa tacaaaaaat tagccgggcc   5880
tggtggggcc tggtggcaca tgcttgtggt cccagctact caggaggctg aggcaagaga   5940
attgcttgaa cctgggggggc ggaggttgca gtgagccaag atcacaccac tgcactccag   6000
cctgggcgac agcaagactg tctcaaaaga aaagtaaaag aaaaaaaatc actcatgttt   6060
ctacatccag aatgttattt tggtacatct ccttttaggc attttactct gcctttgttg   6120
gtacattttt aattttaatt agaattatcc tgtatatact gtttttattc tgccttttta   6180
aactttatat aagcattttt accatcagaa gaagttttta aaaagtatt atttcctgac   6240
atttttcagt actttgtaga gaagtctctg ataatctcat ctctcccagg ctaaaagcaa   6300
tgattgtagt ttaaatctgc agctactctg aactaggcct ggagcagcct ggtcagagct   6360
ttactaaact ctcagacttt gctgctgtga aattcttcct ccttcctccc tcttacaggt   6420
agcaatgaag tgatgaggat actgatctct agaagcctgc ttcaggagta gaacccacac   6480
ttgttctggc ctggtgttca gtgcgactgc agtcagtgtt gagtggtgcc atgtgggccg   6540
ctctattcca aaggaatcat ggattagacc caagggctga gctcctctag ggcaggacct  ·6600
gcaccctgtg tgttggcacc agcatcgggt cttggactgg ggcagaatcc ccagtggaac   6660
cggaagagct ggactgatga gaaacatcag aagaacacat actaccttgt tttcctaatg   6720
ccagaagggt gaccagtgaa gattcaccgt caaaccatga aagtcctttc ttggatccac   6780
tttatcttga ttagtctgca ttttactagt tcactggatc cctcctctag gggcctgggg   6840
```

2678

```
actttcactg atgctcttcc tgattctaga gcaaaggtgt gggaagggga aatggaggaa    6900
tgccctcctg tctgtgtcgt tctctgtgcc acagctacag atgcagaagg tttctctgga    6960
tagcacacct ctgaatgtaa atcatgataa aatggatatt tggaaactta ctcctaagct    7020
gtgatttagg gtgtatttct acttctggac tgcctcaata tcaagggctg agacttttga    7080
attttgaata ttcgttgggt ttcatgttaa gaagcctgtg gtctaggagt gctattcagt    7140
gtttcttttc ctgataaaca cttttgaatat tttttttgtg tttttgtttc cttttctgaa    7200
gctgttcctc cttttaaata tttttaatca cattgataaa atctatcctt caccacctct    7260
ggttctacta tagttgattt ttattttaaa tgtttaattg tatttgatta aacacttaac    7320
tggatttttgg aataataaaa ctctcgtcca atttggcttt taaaaa              7366


<210> 5756
<211> 9308
<212> DNA
<213> Homo sapiens

<400> 5756
cttccatggg acttaatgaa gagcagaaag aatttcaaaa agtggccttt gactttgctg      60
cccgagagat ggctccaaat atggcagagt gggaccagaa ggtaggcgtt tttcttgtgc     120
ttagacgttc taacaacaga tgtctcaggc agacctttat ctttgtctcc cgataatgta     180
attgttaaat gtctcctcca cttaccaact cttactgcaa gtgagaatac cggtagtgga     240
tgatttttcc tagaaggcat cctgatcatc ttgtacataa cttttttttt gttagttgaa     300
taaagatttg gatataaaac taaggcagtt ctatagataa taaaaagaaa cttcttaatg     360
ccagaacaag tttttacagg acccatgtta actgataacc actgtaagat gacaaacagg     420
catattaaga gaattcatac gctgtcgcat gtgcaagcct cctaatccct cactgtgccc     480
tctaaaagga aggccgtctc tgaatcagct gctgatcacc ctgctctctt ttgtacgtag     540
gagctgttcc cagtggatgt gatgcggaag gcagcccagc taggcttcgg aggggtctac     600
atacaaacag atgtgggcgg gtctgggctg tcacgtcttg atacctctgt cattttgaa      660
gccttggcta caggctgcac cagcaccaca gcctatataa gcatccacaa gtgagtgccc     720
aagcttggaa ggcacaatga agtgctcact cgggctgact gtgagagttc agattcgtag     780
gaaaaagatt gatcttttga agctgagtgt cctcaaggaa ctggacttaa aagtacactc     840
tagggggccgg gcgcagtggc tcgtgcctgt aatcccagca ctttgggagg ccaaggcagg     900
cagatcacga ggtcaggagt ttgagaccag cctggccaac gtggtgaaac cccgtccctg     960
ctaaaaatac aaaaaattag ccgggtgtgg tggctggcgc ctgtagtccc agctactcgg    1020
gaggctgagg caggaggatg gtgtgaaccc gggaggcgga gcttgcagtg agccgagatg    1080
gaccactgca ctccagcctg ggcgacagag cgagactcca tctcaaaaaa aataaataaa    1140
taaaataagt acacgctagg tctgttgctg cctgttggac ttgattctgt catcctgtgt    1200
attgcttagg gaatcaggtc agccagcttt ctcagaaatc ttattttgag ctggtaccag    1260
gagacttctc caatagagtg atcagggtcc tctcacccct ttatttattt atttattttt    1320
aagacagagt ctcgctctgt tgcccaggct agggtgcagt ggcatgacct cggctcactg    1380
caacctccgt ctccccggtt caagtgattc tcctgcctca gcctcctgag tagctgggat    1440
tacaggcacg tgccaccaca cctggctaat ttttttttcat atttagtaga gatggggttt    1500
caccatgtta gtcaggctgg tctcaaactc ctgaccttgt gttctgcctg cctcggcctc    1560
ccatagtgct gggattacag atgtgagcca ccgcacccgg cccctctcac ccttttcctc    1620
aatccaaaga tggaactgcc agtgatttga ggaagtaata gaaactacta atagaaagca    1680
catataactc tgatttttag aggctcgtgt aacctaacta gaagtagtac aaacgtgctg    1740
gtgagaagta cctcagcctg gttatctctg ggtagtcctt attccaggaa tatgttttaa    1800
tccaccgttt gcctttaaag agtcttccca attgtgactc tcccctttccc actcttctgc    1860
tttactccac tgccctgccc tttgttctct ttccccttct cccccatttt tttttctttt    1920
ccatctttat ttctgtcatt gtcttttctt cttggtgtac ctatcagcat gtgtgcctgg    1980
atgattgata gcttcggaaa tgaggaacag aggcacaaat tttgcccacc gctctgtacc    2040
atggagaagt ttgcttccta ctgcctcact gaaccaggtg aatttgccac actgcactga    2100
gatatagcag ggagagatgc ttcctgctca gatggcatta ccgagcactc cttccagcct    2160
cttgacatgt cgagccactg tttatctagc tgtttggttg aggagtaata gagtcctgtg    2220
acctgatgtc acaaggacca agaagctatc tggtgtgttg ggaggtaggc agtggcctga    2280
ctggtatgag cagtttccac caagtacaga gagttccttt ggccacttgg gtttttgcagt    2340
gacacactct gagcagggtc tgtttagaga agatttccta gaagatagaa ttgtgctggg    2400
ctccctcgac ctcactgact ttctcacctt ctctctgctg cctttttgatc cctcctcagg    2460
aagtggggagt gatgctgcct ctcttctgac ctccgctaag aaacagggag atcattacat    2520
cctcaatggc tccaaggtac tagcgtgcgt cctcccagag cactttggag attgttccca    2580
gcttcctcct gacatcctct ggttccttca catccgcggg ttaatactcc cataggattt    2640
```

2679

```
ttatgtgttg ggaagagaac ctctgaccca tttctctttc tttattctca ctgtttgtat   2700
ctctcctaat ctgattccag atcatttcgt tgacttttgt ctatcctttt tatactctct   2760
tggactgcct ctctgatctg cagtcactgc agcgaccttt tacctcacct cagtctctgt   2820
gccattggac cttattgtca gtctctgtgc cattggacct tattgtcagt ctctgtgcca   2880
ttggacctta ttgtcagtct ctgtgccatt ggaccttatt gtcagtctct gtgccattgg   2940
accttattgt cagtctctgt gccattggac cttattgtca ggaggaccca gtggtgttcc   3000
cagacgctgt gagaactcaa gcattccctg tccttttgc accccttta ccccacagg       3060
ccttcatcag tggtgctggt gagtcagaca tctatgtggt catgtgccga acaggaggac   3120
caggccccaa gggcatctca tgcatagttg ttgagaaggg gacccctggc ctcagctttg   3180
gcaagaagga gaaaaaggtg agtggctgtt ggacaggaaa caattcaggt tatgagactc   3240
tgccacctgc cagcccaact cctgctctat ttcagaaaac aggtttgcat acttgctaac   3300
ctacctttga agcagttgct tctattagga ttttcaacag gagcatatga aatacaacag   3360
ggcattatta aacactaggc ctctggggaa agtgacaatg tttgccagta aattcttcaa   3420
gccacctgtg agtgttctga cctctcctgc ctctgctttt ggcctgtgtt ccttatccag   3480
ctgcttacgt tggtgcactt tgttgctcca ggaagagacg cttagagaag acctggtgtt   3540
ggccacaagt ctcagtaatg gaaggcgtgt ggtccctttt gcttctttga ttaaaaataa   3600
agtaaaactc attggagatg attgtgggta tttcagcaac ccaagaagga cacttaggta   3660
ctgtaagtaa tttgaaaagt aagatacttc taggattaag agccgccatg gccagggcat   3720
gaacaggaga cctgtgatca tgtaaccgta attggtaata agggctcaag acccattcag   3780
attttttaga ccagatgctc aaagcagtca tctctctcta gtttgtactg ttatggggggg  3840
actttgtgag agaaggcagg taatgaaatg accctaagt gtacctcttt ctcacagctc     3900
ctcgggtttc tgtattttcc tacaggatcc ttcctgatcc tctgtaactg taaggcatta    3960
tgcattttag catccccttc tctttggtaa cacagcaacc atttcctagg cttctactgt    4020
gtgtgaagcc catgctaact cctgggcagg aagaccttca gtaaaaggct tagaaatgga    4080
gtttatccta tcaacaaaag agagcaagga aatgatgtaa aggcagtcta ttttcagagc    4140
cagagaggaa ctgggagatt gtagatagtt tgtggttttc aattagaggc actgaaattg    4200
ggggcagttg gtgtcacaat cctaaaagaa gttgtgagaa gtgtttgtag gttagtcagg    4260
tagagtagac attagtagat tctcttaata agttagaaaa tgtttagctg aaacaggtat    4320
ctttctgagt gctgacaggc ctttaaacct gaacttttc tttttcctca ttttaagttc     4380
ttgtggggtct aagtcttggg tgctgaaacc catacctcac aggctcccgt ccccagggaa   4440
ggccgcccta cctgctggat tgttgggcaa ccacgcagtc cctgatttt gccaggtggg      4500
gtggaactcc cagccaacac gagctgtgat cttcgaagac tgtgctgtcc ctgtggccaa    4560
cagaattggg agcgagggc agggcttcct cattgccgtg agaggactga acggagggag      4620
gatcaatatt ggtgagatac gcaggggtgt ggcagggagg tagcggtccg ggacaggcac    4680
tgctgttttc cagcttggtt ggaacgtcgg cgctcttccc ctctagcttc ctgctccctg    4740
ggggctgccc acgcctctgt catcctcacc cgagaccacc tcaatgtccg gaagcagttt    4800
ggagagcctc tggccagtaa ccaggtaacc tctgccttgc ctccacatgg ctttgcacta    4860
tttgcagccc gggacctgct ctagggccca catttccagg agagaagcca ggaaattcct    4920
ctgtcagtcc caccactgtc ctagccagag cttgtgcttt atttctgtcc atctttttctt   4980
gggatatctt taacgatatt aaagtgtcgg gtgagtgaag tggacttagc acttaaaagc    5040
aataaatttc ctctatagaa aaagcaagag actttgaagc tttggatcac ttagaaaagg    5100
cgcctccgag atgtcttacc gaggctcctg caccaggtgc tggtctaagc ccctcagtct    5160
tgtctggttc tctgctccct gtgctgcagt acttgcaatt cacactggct gatatggcaa    5220
caaggctggt ggccgcgcgg ctgatggtcc gcaatgcagc agtggctctg caggaggaga    5280
ggaaggatgc agtggccttg tgctccatgg ccaagctctt tgctacagat gaatgctttg    5340
ccgtaagtga ttcctctggc tctcctggga tggacaggga acagctgcta ggcccagcgg    5400
gtcttgagag acatgagtca gatttggaac ccagccctcc tggaatccca caaggatcac    5460
cttaagctta aggatataaa tgaactcatg agcggcctat gtgggagctc tcatcgctgg    5520
cttttaggcc tgctgcatgc cattatacac ttcattatgt cactgttgtt tggttgtgtt    5580
ctaggcgaga aaccaccttt ggaaggttca cagcagcccc aatttagcac tctgccatgt    5640
ttacattgtc aggctgcatt gccactaggg ggaaccatag cttttttatca tcccagccag   5700
ggtggctgtg ggcagcttct gcctggcagg taataaggga gaggggcaga gggctttgag    5760
tcgcctgtct gggggggaact gacaagttta gtaggtgaac ttcccttgtc tctaaccata   5820
cagaatgtgg aggccctctt tgagcttggc tgtttgtggt tctttcatgg gtttatggcg    5880
ggctgccaga tcgtgggctg gggtaggaag ggaagctgct tgctccacag tcttcccaga    5940
gtccaagacg tctagtccct gtctccctgc agatctgcaa ccaggccttg cagatgcacg    6000
ggggctacgg ctacctgaag gattacgctg ttcagcagta cgtgcgggac tccagggtcc    6060
accagattct agaaggtaaa aattgccaga ggttattctc ttcccttcag aacggggacg    6120
ggatcgctgc tttccccact ctctgtcccc atgcctcctg ggcctcaggg tgcagtcaag    6180
ccctgtctgt ctcgaggctt cctcctccct cccgttccac agagctgttc tggcaggggc    6240
ctggagtcca gagccgcagc ttcgtccctt tcggggggcc tcagatcgct ctgctgctgc    6300
```

2680

```
cctttttcctc tggagatctg cgagaagggt gaactgagat aatggatgag aaagcatgtt    6360
gaaaaccaca gccgggggctt ttctctaagg ttatcgagta cgtggttctc agggatccaa    6420
gaacagtgat ggacaaggca aatgtgagcc agtatggtca tcagtagctc tatattgatt    6480
atcagccaga tggcctaaaa gatacctgtc tcaatattac tagtgtattt ttcaataaaa    6540
taaaccatca ctatatgggt atcttcttgg tagtcacaga cattctatcg aggaaacatg    6600
gaagccgttg gggtcgggct cggagcctgg ctgtctccac tctctacagc cagtgcggaa    6660
gtcttgaaat gacacgactc ttggaaaagc aggaggggca gaggcttctt tgagtgactt    6720
cggtgaagca acgtgaggct gccttgctgg aaacattata taatggggct tccctgcccc    6780
tttcacagca cccttctcaa acctcagcct gtgctggaat cgcctggagg gcatgggagc    6840
gcagattgcg ggcctcaacc ccagagcttc tgctccagag ggtctagtgt gggcctggga    6900
atttgtatct gcaacaagtc ttcaagtgag gctgccacag cttgtctgag aaccacactt    6960
tgagacccac cgctctggtg ttaatgtcag agtcacaggc taccacaggt tagaccgctg    7020
ctttcttctg caaacctcat tccagaaaga tgtttatggg ctcagtcgcc agtgttcaaa    7080
ctgaattccc gagagtcgtt ttccttccat tactcttgga attgctttct cactgagctt    7140
tatgtgcgta ggaaacttcg ccttcattct aactctctct ccaccctgca ataataagca    7200
ggaaaacatt tattgtaggc cacaccatca cccacttaca gaagaattgg ggcactcatc    7260
actgtatcac tttgtttcat catggacttt actgttggat aaatctacag tttatgcttt    7320
atttgagacg atgtgactac tgattcctcg aggggggttta tatttctttt tgcattaaag    7380
gccactgcta aaaatgaagc aaataattga taccctcctt tcagggaaaa tgtttttcatt    7440
cttttgtaag tcagttttct gattaccaaa gaaatgtgta tttattgttg aaaccttata    7500
aaattaggaa aagtaggctg ggtgcggtag cttatgtcta taatcgccgc actttgggag    7560
gctgaggcgg gtggatcgcg tgaggccagg agttcgagac cagcttggcc aacccggtga    7620
agccccgact gtctaaaatt ataaaaagtt agctgggcgt ggtggtgcat gcctggaatc    7680
ccagctactc gagaggctga ggcaggaaga tcgcttgaac ccaggaggtg gaggttgcag    7740
tgagctgaga ttgcaccatc gcactccagc ctgggtgaca gtgagactcc atctaaaaac    7800
aatacaaaaa attagccggg cctggtgggg cctggtggca catgcttgtg gtcccagcta    7860
ctcaggaggc tgaggcaaga gaattgcttg aacctggggg gcggaggttg cagtgagcca    7920
agatcacacc actgcactcc agcctgggcg acagcaagac tgtctcaaaa gaaaagtaaa    7980
agaaaaaaaa tcactcatgt ttctacatcc agaatgttat tttggtacat ctcctttttag    8040
gcatttttact ctgcctttgt tggtacattt ttaattttaa ttagaattat cctgtatata    8100
ctgttttttat tctgccttttt taaactttat ataagcattt ttaccatcag aagaagtttt    8160
taaaaaagta ttatttcctg acatttttca gtactttgta gagaagtctc tgataatctc    8220
atctctccca ggctaaaagc aatgattgta gtttaaatct gcagctactc tgaactaggc    8280
ctggagcagc ctggtcagag ctttactaaa ctctcagact ttgctgctgt gaaattcttc    8340
ctccttcctc cctcttacag gtagcaatga agtgatgagg atactgatct ctagaagcct    8400
gcttcaggag tagaacccac acttgttctg gcctggtgtt cagtgcgact gcagtcagtg    8460
ttgagtggtg ccatgtgggc cgctctattc caaaggaatc atggattaga cccaagggct    8520
gagctcctct agggcaggac ctgcaccctg tgtgttggca ccagcatcgg tcttggact    8580
ggggcagaat ccccagtgga accggaagag ctggactgat gagaaacatc agaagaacac    8640
atactacctt gttttcctaa tgccagaagg gtgaccagtg aagattcacc gtcaaaccat    8700
gaaagtcctt tcttggatcc actttatctt gattagtctg cattttacta gttcactgga    8760
tccctcctct aggggcctgg ggactttcac tgatgctctt cctgattcta gagcaaaggt    8820
gtgggaaggg gaaatggagg aatgccctcc tgtctgtgtc gttctctgtg ccacagctac    8880
agatgcagaa ggtttctctg gatagcacac ctctgaatgt aaatcatgat aaaatggata    8940
tttggaaact tactcctaag ctgtgattta gggtgtattt ctacttctgg actgcctcaa    9000
tatcaagggc tgagactttt gaattttgaa tattcgttgg gtttcatgtt aagaagcctg    9060
tggtctagga gtgctattca gtgtttcttt tcctgataaa cactttgaat attttttttg    9120
tgtttttgtt tccttttctg aagctgttcc tcctttttaaa tatttttaat cacattgata    9180
aaatctatcc ttcaccacct ctggttctac tatagttgat ttttatttta aatgtttaat    9240
tgtatttgat taaacactta actggatttt ggaataataa aactctcgtc caatttggct    9300
tttaaaaa                                           .                   9308
```

<210> 5757
<211> 989
<212> DNA
<213> Homo sapiens

<400> 5757
```
ttttttcttct atgccggacg tggtggctca cgcctgtaat cccaccactt tgggaggcca      60
aagcgggtgg atcacaaggt caggagtttg agaccaccct ggccaacatg gcaaaaccct     120
```

2681

```
gtctctacta aaaatagaat aattagccac gtgtgggggg gggcgcctat aatcccacct    180
actcaggagg ctgaggcagg agaatcactt gaaactgaga gacacaggtt tcagtgagcc    240
cagatggtgc cattgcactc cagcctgggc gacacgagca agattccgtc tctcaaaaaa    300
aagaaaagaa aagaaaaaag agaagagaaa agaagaaaga aagaaaggag attttgtcta    360
atagttgaat ttactccatt tatatgtatt gggataacaa acattttgga gcctacatct    420
taccatattt catgtggtat ttgtattgta atactttttt attatatggg ctgtgctata    480
ctttcttttt ctatactccc tttctgggaa gactctggga tctctttttt attttccttt    540
tttttcctac gggaatggca aatagtgttc tcacacgttt atgagcggtg gagtataatc    600
taagaaactg tgatgaaagt acatcgaacc actgcacgtg cacaaattga caactgcacc    660
ttatggtgtg tagagagatt tacaacgctc ttaactcttt atgtggatac tttgctctat    720
gtgaaagact ttcttttttgt tctcttaaat agccttcaca cataatttaa acctgtggct    780
ctgggctgtg gatcctcttt catcataatc ctgaaacatc atttgtcttt tttactgatg    840
gggcacaaag cactgatgga tgataaaact gatgatgcct caccatgagt caaggcggcg    900
gcaccacact gtgatagtaa atgtagtaat agacgcatgt gctttagtaa gaaccacaca    960
ctccactaaa aaaaaaaaaa aaaaaaaa                                        989
```

<210> 5758
<211> 985
<212> DNA
<213> Homo sapiens

<400> 5758
```
ttttcttct aggccggacg tggtggctca cgcctgtaat cccagcactt tgggaggcca     60
aagcgggtgg atcacaaggt caggagtttg agaccagcct ggccaacatg gcaaaaccct    120
gtctctacta aaaatagaat aattagccag gtgtggtggt gggcgcctat aatcccagct    180
actcaggagg ctgaggcagg agaatcactt gaaactgaga gacagaggtt tcagtgagcc    240
gagatggtgc cattgcactc cagcctgggc gacgcgagca agattccgtc tcacaaaaaa    300
aagaaaagaa aagaaaaaag agaagagaaa agaagaaaga aagaaaggaa attttgtcta    360
atagttgaat ttactccatt tatatgtatt ggtataacaa acattttgga gcctacatct    420
taccatattt catgttgtat ttgtattgta attctttttt attatatggt ctgttctatt    480
ctttcttttt ctattctccc tttctgggaa gactttggta tctctttttt attttccttt    540
tttttcctaa gggaatggca aatagtgttc tcacaggttt aggagcggtg gagtagaatc    600
taagaaactg agatgaaagt acatgaacca tgcaggttca gaaattgaca atgcagctta    660
tggtgtagag agagatttac aacgctatta actttttatg tggattcttt gctttatgtt    720
aaagtctttc tttttgttct cttaaattgc cttcacagat aatttaagcc tgtggctctg    780
gtctgtggat cctctttcat cataatcctg aaacatattt gtctttttta ctgatggtac    840
agaaagcaat gatggatgat aaaactgatg atgccttacc atgagtcaag gcagcggcac    900
caaactgtaa tagtaaatgt agtaatagtc gtatgttctt tagtaagaac caagcacttc    960
agtaaaaaaa aaaaaaaaaa aaaaa                                           985
```

<210> 5759
<211> 988
<212> DNA
<213> Homo sapiens

<400> 5759
```
ttttcttct aggccggacg tggtggctca cgcctgtaat cccagcactt tgggaggcca     60
aagcgggtgg atcacaaggt caggagtttg agaccagcct ggccaacatg gcaaaaccct    120
gtctctacta aaaatagaat aattagccag gtgtggtggt gggcgcctat aatcccagct    180
actcaggagg ctgaggcagg agaatcactt gaaactgaga gacagaggtt tcagtgagcc    240
gagatggtgc cattgcactc cagcctgggc gacgcgagca agattctgtc tcacaaaaaa    300
aagaaaagaa aagaaaaaag agaagagaaa agaagaaaga aagaaaggaa attgttgtct    360
aatagttgaa tttactccat ttatatgtat tggtataaca caacattttg gagcctacat    420
ctccaccatat ttcatgttgt atgtgtagtg taattctttt ttattatatg gtgtgttata    480
ttctttcttt ttatattctc cctttctggg aagactgggg tatctctttt ttatttctcc    540
tttttttcat aagggaatgg caaatagtgt tctcacaggt ttaggagcgg tggagtagaa    600
tctaagaaac tgagatgaaa gtacatgacc catgcaggtt cagaaattga caatgcagct    660
tatggtgtag agagagattt acaacgctat taacttttta tgtggattct ttgctttatg    720
ttaaagtctt tcttttttgtt ctcttaaatt gccttcacag ataatttaag cctgtggctc    780
```

2682

```
tggtctgtgg atcctctttc atcataatcc tgaaacatca tttgtctttt ttactgatgg        840
tacagaaagc aatgatggat gataaaactg atgatgcctt accatgagtc aaggcagcgg        900
caccaaactg taatagtaaa tgtagtaata gtcgtatgtt ctttagtaag aaccaagcac        960
ttcagtaaaa aaaaaaaaaa aaaaaaaa                                           988


<210> 5760
<211> 8252
<212> DNA
<213> Homo sapiens

<400> 5760
cagttggcag agttgccaca aaagccacca cctggagacc tgcccccaaa gcccacagaa         60
ctggcccccca agccccaaat tggagatttg ccgcctaagc caggagaact gccccccaaa       120
ccacagctgg gggacctgcc acccaaaccc caactctcag acttacctcc caaaccacag       180
atgaaggacc tgccccccaa accacagctg ggagacctgc tagcaaaatc ccagactgga       240
gatgtctcac ccaaggctca gcaaccctct gaggtcacac tgaagtcaca cccattggat       300
ctatccccaa atgtgcagtc cagagacgcc atccaaaagc aagcatctga agactccaac       360
gacctcacgc ctactctgcc agagacgccc gtaccactgc ccagaaaaat caatacggtg       420
ggtgggacaa tgttcaggcc cttaggaacc ctattccgca ctttgcaagt tggtgggagg       480
gcaggtgctc caacttacac aagaaaaagt gagagcttgc tcacctgacc cttatgtgct       540
ctggttcaag catgatggtg gattagagcc tgtgggttac aaacccaggc tttaggctcc       600
agcagacagg cttcaagacc tggcttcagt gcctgacata actgcacaac cttggcaagt       660
tactttctct gagtcttact ttcttcacat acaaaaagga gctaatacaa tatttgagct       720
cacagatgat taaatacagt gacaaatgag cagcacttgg ctggcaccta gaccactgag       780
caagtagtca ctattaccta ggaaccttga ggatgaaact tttcctttcc tgagggtcac       840
gagaaaccaa tttccctctc ggggttctgg gtatttttctc tctctctcta ttttttttttt    900
tttttgaga agggctcgct ctgtcgccca ggctggagtg cagtggtgcg atcacagctc        960
actgcagcct cagtctccta ggctcaggtg atcctcttac ctcagcctcc tgagtagctg      1020
ggaccaaggt acatatcact acgcctggct tttttttaat atttttggta gagatggggt      1080
tttgccatgt tgcccaggct ggtcttgaac tcatgggctc aagcactcct cccatcttgg      1140
cctctcaaag tgctgggatt acaggcgtga gccactgcac ctggctccct gagttgctaa      1200
gtcagacttt ctcgctgcat cttcctaaag gaattggaga taaagctctc gatataatag      1260
aatagcatag aattttgtag aaatctcata ttctgtcatt ttcatgaaat gtttcctact      1320
ctatatccag aagttctccc attgcacatg gcagctctac ctgcctcaca ttctgttata      1380
aaatgttaca gtacccagca ctttgggaag aggcgagtgg atcgcttgag gccaggagtt      1440
cagggctgct gtgatcacac cactacactc cagcctgggt aacagagcaa gaccctgtct      1500
caaaaaaatt aaaatggggc tgggtgcagt ggctcacatc tgtaatttca gcactttggg      1560
aggccaaagt gcgaggttcc cttgagccca ggattcatga ccagcctggg caacatacag      1620
agaaaccgtc tctataaaaa ataaaaatta attagctggg catggtggta catgcctgcg      1680
atcccagcta cttgggaggc taggcgggga agattgcttg agccctggag atcgaggctg      1740
cagtgagcgt aatcatgcca ctgcactcta gcctgggcaa cagagtgaaa ccccgtctca      1800
aaaaaaaaaa aaatttaaat gttgcagtaa aagtgtgtca tatcaatact aaaattaaga      1860
aaaataaaac ccatcttcct gtaggttgga ggctgccgtg tctgatggtg gatacttctg      1920
ctattcaaaa gggaactctc ccatgactcc caagcaccac tgatgcaaaa ttttcatttc      1980
atgctacaca ctatatagtt ttattatgtc atttaatctc tgtgttataa attaacacac      2040
tacaggcctc tcagttgctc acgcagtcac tgccacagtt ctgccaggct tctccaaccc      2100
acccgcacgg cccagaaggg agctcggaaa gcagctggaa ctatcagggt gattaaagga      2160
gaaaccaggg gacagagagg aagaggcact ccacccaaaa catttaaaga gacagcttgc      2220
ttttttaaa attgccaatt agccaggtgc aaaacaaaaa cccatcattt agaaggtgat      2280
acctctattt tcactttttct atttgcaaag aactggaagt tcaacaaata aatgctcaaa    2340
tcaaaactaa tcaaaaatta aaactgtttt aggaactgca tagacttctc cgagccccag      2400
gccgatcctg ctgtgtttaa ccagcatgta ctgacttgct gttttgcatg aggggactga      2460
caaatttgtt tatgctgcac attcattatg cagaagctgc agatttttgct ttacatcatg    2520
tttcctaaaa acatttttag actctgctgt cattctgcaa gctgatgtgg gttgggggtg      2580
cgtacagagt gcttgatggt ttttggtgaa gctcaatttt gatccctacc catagtgttt      2640
gctttctggt gaaaataact tgatgatgcc caatcaccaa tgcagggcca ccctgatgat      2700
ggggggagag gaagggcctg tagttaagag tacacagtat gctgggtgcc tgacagacac      2760
tcttcttccc gcccttcaag ggtgaggaaa tcaaggctca gcgaggttaa gttactggcc      2820
aaggtcaacc attttacaaa gaaccgctgc tctttttttc cattcagtcc attctttcaa      2880
ttaaaaccca gtttctttct ttaaggggaa aaataaagtg aggcgagtga agaccattta      2940
```

2683

```
tgactgccag gcagacaacg atgacgagct cacattcatc gagggagaag tgattatcgt    3000
cacaggggaa gaggaccagg agtggtgggt acgtacgaat atccatccac ttcatccgta    3060
cattcataca gcatgcctgg gcaggcacca cattggagcc tacagacagt gcagtaaaag    3120
agggctcttg agcacaagga ccctgtcagc tgcatcactc acccaacagc cattgcattt    3180
ggtgtctttt ctatgtcaca cactattaca tgctagaaaa acagccgtgg agctggccgg    3240
gcacagtggc tcacgcctgt aatcccagca ctttgggagg ctgaggcgga tggatctcga    3300
ggtcgggagt tcgagaccag cctggccagc atggtgaaac cccgtgtcta ctaaaaatac    3360
aaaaaattaa ctgggcatgg tggcacgcac ctgtagtccc agctactcag gaggccaagg    3420
caggagaatc gcttgaaccc gggaggcaca ggttgcagtg agatgagatc acaccactac    3480
actccagcct gggcaacaga gcgagactcc atctgaaaaa aagaaaaac agccatgggg    3540
ctttgaagac aggtcaagag aattaacatt tgtatgtact ttacccatgg tatcatgtaa    3600
ccttgtgagt tgtaggcatt ttctgatttt tcatataaat actaaagcgg aagaaagttg    3660
agcatgttgc ctgtggtccc tcagccagta agcaggctaa gtcaagattc cagatcggcc    3720
ctgaccccag agcctatgtg ctttgctcac cattccacac tgtccccagg ctgggaatca    3780
gaatgcccaa gttcctgctc aggctgagca gttgacaagt cctcagactc aattcttaat    3840
ccagtctgca gttctttctt tgtcaaatag gccaagacac cttctccacg taattttagg    3900
aaaagattaa atgaaaatat ctatgaaaac tcctttaca ttaaaacctg cagctcaggc    3960
atcaggaggg aaagacatca gcatcctcat aggccctgct aggtacccag gctgtgagtg    4020
acctgcgagg gcagtccaca catctattgg ttttcacgtt gccagggagt aagtctcccg    4080
atgggaactg ccaggccaag gtacagtgaa taagccacct cttctgctct ccttgttgat    4140
catttcctga catcagggtg aaaattcccc ttccttggca gcctgagccc cgtcctgcca    4200
agagggactc agttctgtct gccaggaagg gacctgaggc tcgcagttga gccagcagta    4260
cctaagaata cccagaaata catatgtata tacatgtgtg cacacacaca taggcatggg    4320
cacacattca cctttgactt ttcttccttc aggcctagac agtgacctca gattcttaat    4380
cacagctgta gggattttgt ttggactcaa ctggggcaat tttgccctcc agggacattt    4440
acaatatctg gaaatattga ttgtcaggac ctaggaaggg ggttgctacc aacaactagt    4500
agatggaagt ttagtggcca gggatgccac taaacatcct ccagtactca gggagccccc    4560
acaagcaagg atgccagtag caccatggtt gagaaactgg actgaaggga tcagcctggg    4620
gaggcccagg ggtacctcca gcctctgtca gcagagtggg gccagccctg gcatgaagcc    4680
tgtcagagag tccacttcat ctcatgacga ggaggtgggc tctgaagccc ccccacgtga    4740
atcagttact agctctatgg gccttggata aagcatgtcc cttctgtaag cctcactttc    4800
ctctgaaaaa taggacatga ttaatcgttt ctcacaagga tgttgaggaa ctcactttgt    4860
aatctgttaa tattattata atcaagcagt gatcatgttc tttgctaagc aactgatgac    4920
tacagcagag atacctgcgg ggaatgggaa gctgtcattg gtgtccctag catcattcct    4980
aggggacatt gtgtgtgcca ccattacgtg cctcgccaga tgtaaagatg gtgccacaca    5040
cacatgctaa ctgtgatgtg aaattcacaa agacctcaca catgcatgat gccaactaag    5100
accacacgcg gtgggtgggc aagccttcag gagagctggg caggcctggt tgactctgtt    5160
ccactcttaa aaccaccttc ctctctatcg atttggcatt ggaagccaat atgcacgatt    5220
ttgtttttc tattgaaggc ccattacatg attctcttta gtgcaatcaa tactaatcta    5280
attgaggtaa ttagaaaatt tttacaggta actggcttac aggccaatgc agcagacaat    5340
aaaattgcca ttcgccacca tcagtctcaa actttcacag tattcttcct ccacggtaac    5400
cagaaaacaa gtgatagtac atagcagcct tttttttttt tttttactgg ctagaacaac    5460
actttactca caaagagaag agacagaaca agattagctt tgatttgagt atggtacccc    5520
gcagtgggtc ttgccaggca gctgacacag cttaatggtc tgtatgcatc ctacctgggc    5580
tgtgggcaaa gaaacccctt ccttcccaac taggaatagg taatagtact gggattggcc    5640
aggtgccata gcagcctttt catttgcttt tttttttttt tttctttttt aaatgtatca    5700
cacaagcctg gagagaaggg attttcttta gccccactta acagagaaaa ggcttagcaa    5760
ggtttgtgtg aggtcaccca gctgtaaagg cagccaggcg ccctggttca gagcaaggac    5820
tctagagccc cacgcctgtg ggagagcatg tcacctctct gggccactgt cccttcatct    5880
gtaaaatgaa gattgtaaac tgtataagaa atatccacct caggggttg ctgtgtgggt    5940
acagcaagat ccatgtagaa tgctgagcat attggaagtt ctgtcgtttg ctctttcctt    6000
atgtagttta tgaccgttaa gctctctgta gttcactaaa gggtgggaag aagggtaagc    6060
ctgggattcc accgccaggt ctgtgggcag actaggctgg gctcttaccc actgggtttg    6120
tcgtggggcc actgcctgct gcctccatcc tgaccactct cttttctccc tgcagattgg    6180
ccacatcgaa ggacagcctg aaaggaaggg ggtctttcca gtgtcctttg ttcatatcct    6240
gtctgactag caaaacgcag aaccttaaga ttgtccacat ccttcatgca agactgctgc    6300
cttcatgtaa ccctgggcac agtgtgtata tagctgctgt tacagagtaa gaaactcatg    6360
gaagggccac ctcaggaggg ggatataatg tgtgttgtaa atatcctgtg gttttctgcc    6420
ttcaccagta tgagggtagc ctcggacccg cgcgccttac tggtttgcc aaagccatcc    6480
ttggcatcta gcacttacat ctctctatgc tgttctacaa gcaaacaaac aaaaatagga    6540
gtataggaac tgctggcttt gcaaatagaa gtggtctcca gcaaccgttg aaaggcatag    6600
```

2684

```
aattgactct gttcctaaca atgcagtatt ctcaattgtg ttactgaaaa tgcaacatta    6660
gcaaagaggt gggttctgtt ttccaggtga aacttttagc tccatgacag accagcctgt    6720
agttatctgt gtacacagtt tacagctaca aaaacctact ttggtattta ttacagaaaa    6780
gtgctcagtt aaatgtaagt gttattcctt cagcaaaata ttcactgacc caaaactctt    6840
tatggcattt tacaatgcac acagcctcat gcaagtttag acaagtggat ttatactgtc    6900
ttatgagtgc ccgcccctga tatattacct cattatgcaa aaataacata tctttcatga    6960
ctattttgac aaaagtttaa aacacatatg aagttcaaat ttcaggaacc aaggactgcc    7020
agaaaatatt agcctctaca ttacgcatgc atttagaagc ttacctgaaa tctgcctttt    7080
ataaaggaat agtatggata agtggaattg tacatttttt aaacttgatt gccattaaag    7140
cagaaattat aaggttgcaa caatatttgt ttctaatcac tggctttctc aagagtatgg    7200
attgacatat tgtgttatga atgcacatct ctcagatgtg ttgaagcatc cattgcatcc    7260
atttttatt attttcttag ttttgttctt ggacaaattt aaacttttaa aagattattc    7320
aagatgaatt taaaagtcaa cccttcacac agtttcccta ctgtatgtag aatccaggtg    7380
ctgaaaccaa gtgtttcttt tcccatgctc tttgttaaac cccaattata gataattttt    7440
ccagtcttaa gctctgtcca ccttcaagtc aattcataac caagtttttg aacgctgcta    7500
tgaattgcac tgtgaaaagc actcttccct ctcagttttc ttttcatccc agccatgttt    7560
atcagatcct taagaacatt gtatttcagt ctttttacatc agtctgaatt ttggaaaaga    7620
atgcaatagt tgtactccac agtcagtgga actgttccct gagtccgagg ctcatgtgtc    7680
attctggcac tacatttgct taaattgcta ttttggcaac agcacagaaa actaatattt    7740
ttaagcagag aatcttggca atgagtgaga gatgttaatt tcacagaagc acaactccca    7800
acccaaccct taggaaaagc cctcttccat cgttacagtg ctcagtgaat attaatttag    7860
ttctgcttaa gtggttgcta tacaaacttt gaatagccac ctaataaata aaccttgcat    7920
gacaaacctg caaaatattt tatcagctgt tattggaaag tgattttaag caattgcttc    7980
ctcagtgtca gggcacatgt gaatttccac accaaacaga gcatgaggaa ccagttgaca    8040
tgctgggttg tgactggcag ctttagcagc ctcggtactg aagccacacc agtgtccgga    8100
tggaagtctg catctgaggt tgctcagtgt cccggtcatt catttacaca tttttaacttg    8160
cattaaagag ctgttctttt ctgtggccta gactcttttc actgatctca aaataaactg    8220
gttttttttca aaaaaaaaaa aaaaaacaaa aa                                   8252


<210> 5761
<211> 14425
<212> DNA
<213> Homo sapiens

<400> 5761
caggctcagc cgtgctgctc ttcctggcca tgccaatgct caccattggg ggaatcctgt      60
ttctcatcac caacctgcag gtgggagcct tccctaatcc caggcactcg gcagggtggc     120
gggaaggtgg agggaaggag agaccctttt ctataattgg ctgcctcaga tggggttggc     180
ccaagctgag gtgggagctc tagcggtgga gggtgagttt gggtataagg agggtctgcc     240
acatgctggg tgctcaggaa gtatctgttt catgaataaa taagtgatcc aggctagtcc     300
tatcatcccc agattgggaa cctatttggc caacaccgtt cgaccatcat cactctgtac     360
aatggagcat ttgactcttc ctcggcagtc ttccttatta ttaaggtaaa tatagcaaca     420
gcctacattc actgggcact tgtatatgcc agacacttgt cttgtgaacc tgcattattt     480
gtctccatca actcggtgag gtaggtactg tgttaccccc attttacaga tgaagcattt     540
gagtctctga ggttaaaaag cttgttgaag gttctgcagc tagtagccat gatactggaa     600
cttgaaccca ggcttgtcgg ttctagagcc tgagcttgta accgctaagc cccttcttca     660
gacttgccca agcttttgtg gcagtggtca taatgtgctt gggccagtgt gggtagagg     720
ctgggggacc tttagagtgg ggcgtttgct gctgtgagct tctagtttgg acaagaaggt     780
ggcaagtggc tagtgggtac agcaggggca gacacagagg cttgtccagc tgtcccagtg     840
gctgatgttg gggtatcagg ggatgaactg ttgccaaggc tattagaggt caatcaacaa     900
ccattctgtc ttattcattg cgaacagttt tatctgggca gtgacccgct tagcccaggg     960
gatgaatcct gattgattaa agccaaccat ggcaatccat ttacccgttg ctagtgatag    1020
gtggaggtca gcatatgatc cagtcctttt taatgagata aagggagtgt atatagtgga    1080
agattcaagg ggacttttct tccctgacgc aaggtgaaag cagagtaaaa acaaagtctt    1140
cctcattgaa tgttgtggtg tgaggatgtg atagctggag ttgtggcaac catgcttcaa    1200
ttatgaggca gcaagctgga ggactaaagc cagcacacca cagatggctg agtgaaagga    1260
agggaagagt gtggatctca agccatccaa cctgggactt ctctctgggc ttagtgttag    1320
gtcacaggca gttggcactg cctgcaggtt atggggcag agaagaggat ctctggcagt    1380
caccacccag acatgagtct agcttagtcc cataagcttt ggaggtttgg agggttatgc    1440
agagactgag cccctgaggc actcaagcct ttctactcct ggcataagag tcactttctg    1500
```

```
ggttctccct ccttcccctg gagaacccag atggctgcct catctttctt tcctctctct 1560
tttttttttt tttttattat tgagttggag tctcactttg tctcccaggc tggagtgcat 1620
tggtgggatc ttggctcact gcaatctctg cctagtgggt ttaagcaatt ctcctgcctc 1680
agcctcctga gtagctggga ctataggcgt gccaccacag tcagcttatt tttgtatttt 1740
tagtagagat ggggtttcgc catgttggcc aggctggtct tgaactcttg acctcaagta 1800
atccgccttc cttgacctcc caaagtgctg aaattacagg catgagccac catgcccagc 1860
ctctctcctg tctctctaga gttggaaggg gaaagggagc aggaacagga attcttagtt 1920
taatctgact ttgctgctgc ttactctgtc aatttattga gcaattcact gcacctctct 1980
ggacctcaac gtcactctct gtaaaatggg aggaggttgg gctaggtcgg tggttttcaa 2040
actgagctgt tgaggaactt agggattctc tttgatgtca taccagtcac caaggagaat 2100
aaagagggag atgactggca agctccccat tggtgtgttt tgtaagatga attttgtgt 2160
aaaattttct ttgaacaaaa ggcctttgct gtcgttgggg gaaaaaaggc actgggctag 2220
aagatctctg gggagccaca cgaggaggct ccaccggctg tggggatggg tcgtatgagg 2280
actcctctac tgccgggtgt gtcttggggt gggtggggc atgtgtgtac caggtgtccc 2340
taatcagctt acaggatagt aggtgatggc ttgtactagg actccttaga aaacagggtt 2400
ccagcccctg cctcttctgc tgatgttttt gtatgcaata aaatatacat aacataaaat 2460
ttactatctt aacctttttt ttttttgag acagagtctc gctctgttgc ccaggctgga 2520
gtgcggtggc aggatcttgg ctcactgcaa cctccgcctc cgggttcaa gcgattctcc 2580
tgccttaacc acccgagtag ctggattac aggtgcgtgc caccatgccc cactaatttt 2640
tgtattttca gtagagacgg ggtttcacca tgttggccag gctggtctgg aactcctggc 2700
ctcaggtgat ctgcttgcct cagcctccca aagtactggg attacaggca tgtaatcatg 2760
taatcatatc ctctcacctc agcctcccaa gtagctggaa ttacaggcgt gcaccatcac 2820
gcccagctga tttatttatt tatttttagt agagatgagg tcttgctgtt tcccaggctg 2880
gtctcaagct cctggactca agcaatcctc ctgtcttggt cttctaaagc actagaatta 2940
caggcaggaa ccactgagct tggccctgca tagtgctctt aaagttcatc catgttgcag 3000
catgtgtcag aatttctttc cttttccttt ttttttttat ttggaggcaa ggtcatgttt 3060
cattgtccag ctggggtgc agtggcccag tcatgactca ctgcagcctc aaacttctgg 3120
gctcaagaaa tcctcccact cagcctcctg agtagctggc actacaggtg tatgccacca 3180
cacccagcta attaaataaa aattttctag agaaggggtg agggtctcac tatgttgtca 3240
aggctggtct tgaactgggc tcaggtgatc ctcgtgcgtc ccaaagtgct gggattgtag 3300
gtgtgagcca gcatggttgc ctctttcctt ttttaaggct gaataatatt ccattgtgtg 3360
tatagatcac attatgttta gctgttcatc tgctgatgga cccttagttt gcttccatcc 3420
tttggctatt gtgaatagtg ctgctatgaa cgtgggtgtg acactgactt tttccttctc 3480
cttctgcagc ttctttatga aaaaggcatc agcctcaggg cctccttcat cttcatctct 3540
gtctgcagta cctggcatgt agcacgcact ttcctcctga tgcccggggg gcacatccca 3600
tacccactgc cccccaacta cagctatggg taaggactat ctggtgattg tgggccagag 3660
cccctcattg ccctagggt gggatggaca gggtaaagca aacctatcac aggagaggag 3720
gaggactgga gcagtgcatc tgttagctat tgctgcataa caaactatct caaaactcag 3780
cagcctaaaa tgttaagcat ttattatttt tcacaagtct gtgggtagct ggctagttcc 3840
gctgatcagg gccagatgta gatgattttg acagggctca ttcatacatc tgatcatttg 3900
gaggattaca tggggggctgg ctatgctagg atggcctcac tcacataggt ttggagtgac 3960
agggatgcct gggtcacgtg gctgtcatcc tccagcaagc cagcgtgggc tcattcacac 4020
cgtgatttca gggttctgaa agagtgcaga aatgcacaag cgttcttgag atttaagctt 4080
ggaattggca cagccacttc tgctgcattc tttttggctga agcagttcac aaggctggcc 4140
cagattcagg gcatggggaa atagagctgc agtctcattc aaattggggg aaatacagag 4200
gaggtgaaga aatgtgatca tttttgcagt catttgccac aaggagtaga ggaagggcat 4260
tcctttgctg ctcacttact aattgtcaga ccccatgtgc tctctgattt catcctcaca 4320
ataatcctct gagatatcct tatctccatt ttctaaatgc aaaaaatgag gctcagaagg 4380
gttaagtctg agccatcttt ctgttgctag gaagaggcag agctgggatt tgaacctggg 4440
cctgccctac tctttcatg cttcctaaac tttgctgctt attagaatca ctagattcac 4500
atagagatct tagaaaagga agcctggctc tcacctccag acattctgat ttaactggtc 4560
tggtctgcaa cctgggcatc agagtggcta aaaggtgatt ccaaagtgcg gtggaatgtg 4620
ggattcacca tgctattccc tccagtctga gtctcaggtt cggctcacag tccttggcct 4680
tgctggtggg gcttttgttt ccatagcctg tgccctggga atggcaccac aaaggaagag 4740
aaggaaacag ctgagcatga aaacagggag ctacagtcaa aggagttcct ttcagcgaag 4800
gaaggtgagc cctgctggct aacccatctc tcctccagac ccaagcctct ccttgtgcct 4860
ttcctggccc ctcacctcca gagctccccc agggacccag aatcaggaaa ggcaggacag 4920
aaaaagggcc ttaggcatct tcccaaccct ctcacttaat ggagggtcca gggctttcgt 4980
ctcttttctg tccctctttt ctctatttcg catcctatca cttccccacc ccttgaagcc 5040
cgcctgccat gggttgcctt cccttccccc cactcctcgg ttctgccctc ttctgtgatg 5100
ccattgcact aagtctggta cagtgccccc atttctccag gtctcctggg tccgccctct 5160
```

2686

```
cttattgtcc caactctatc actgcttcct ttccttcctc tctgttctgc gtctttggtt    5220
acacacatca caaaccgcag ctagctacag tagaaataag aacggggtgg gagaggagat    5280
gggagatgca ggtcgaagga caaaaaggag cagatgagca ggatgaacag gcctagagat    5340
ctaatgcaca gcacgaagac tgtaggtcat caaactgcat tgtgtttggg actttcctaa    5400
acaagtagat tttaactgct cttgtcacaa aacaggtaga aatgtgagat gatggatatg    5460
ttaatttgct taactgtagt aaccatctta gtagctatat gtatcctatg acctcatatt    5520
gtatatctta aatatacaga ataaaattga ttttttttgtt tttatttta ccatctgaca    5580
attggatcca aaacatgtat ttatttattt attttaaaga aagaagaata gggttctggg    5640
aagcttccaa aatcaaggga ggacattgaa cttgccaggg tgtaggacct attttagatt    5700
aagtccatcc taatctaaac tcatggccgg tctgccttgt taggaggaac catctcattg    5760
gttaaccttg agagaggaac agaacactga attcatggtc ccatctggac catgaagatt    5820
agggtagagg aagatttccc aaagaaactc aggatactgg tatcaaaaga aagggaggtg    5880
ctgaggagca ggttagaaca gagtatccac actcattctc ctctcccttc tgactttctc    5940
ctctccttgt cgttcctttc acctttctcg ctgagaaaga tcaggaaggt attactgcaa    6000
gaagtgtcat tgaccaggct gtgagagaca gatcggattt caatagagaa gaacacagag    6060
ggtcatccaa ggtggtaggg ccagcatgac aaagcaggga ggtggggatg tgtgagtccg    6120
aggcaggtgc agagcacgcc gggtgagttc tgggagccaa gggtagaagg tgggcccgga    6180
tctgaaatgt tccattgaag cctccacact ccccatccta cctgtccact ttcctcgtaa    6240
ttcacgccca gatcctcctc tccccattag agaccccagg ggcaggggca gaagcaggaa    6300
ctccgctcct tctggagcta cgctttctct cggcgctttg cctggcacct ggtgtggctg    6360
tctgtgatac agttgtggca ctacctcttc attggcactc tcaactcctt gctgaccaac    6420
atggccggtg gggacatggc acgaggtatg tggtagggct gggaggtagc ccatctgcat    6480
gtcccagctg ggaacacaga gcctcccagc agggctgtac acaccagagg agggtctgat    6540
ggtgtgggga ggagggacat gcagacaagg gtaaggtggg agagtccctg cctggaaggg    6600
agttttggaa acttctcatc aaccaacctc tctcttcctt ctgcagtcag cacctacaca    6660
aatgcctttg ccttcactca gttcggagtg ctgtgtgccc cctggaatgg cctgctcatg    6720
gaccggctta aacagaagta ccagaaggaa gcaagaaaga caggtgagat gcggggggagg    6780
gcagggctg gtcagggaac caggaaggga ggtcttcatt tacccccatga catcttctct    6840
cgctctttt ttttttttt ttttttttt tgtgatagag tcttactctg ttgcccaggc    6900
tggagtgcag tggtgtgatc tcagatcatt gcagcctgca cctcctgggt tcaagagatt    6960
ctcctgcctc agcctcccaa gtagctggga ttacaggcgt gtgccaccat cccccactaa    7020
tttttgtctt tttagtagag acggggtttc accatgtcag gctggtcttg aactcctgac    7080
ctcgggtgat ctgcccgcct cagcctccca aaatgctggg ataacaggcg tgaagcacca    7140
tgcctggtct tctcttttgt tcttaacccct gtctagttgc actcattcat tcattaaaac    7200
actagtcact gagtgatagt tatgtgtcag ccatggtgcc agacaccagg gattcaatga    7260
cagacaagat agatgtgttc ttttttctcaa ggtgttctca gtctagaggg tggagaaagg    7320
caggtagtca ggcagttata atccgtgaag caaacccaca gggggccatg ggggggcacaa    7380
agaagcgcac ataatctgtt ctaggtgagg atgggattgg tgtcagggaa ggcttcctgg    7440
agggaatggc acctaagcca agacctgaag gatgagtaag gagggaggag atgaagaggc    7500
ggggccttgg agagtggccc aggagcacag tggggtcaaa atggtgaatg agagagtgaa    7560
acattgagga atctgggcag atgagtcggg ctggctaggg cacagagcac tggggaatct    7620
tagggaagtg gctggagaga gagaggtaag aaggggtcag gctgtttacc acatcaggga    7680
gttttggcct gatccttgga cctggttgga ggagtagagg tatgctgagg tattttaacc    7740
tgctgggtca ggagggacaa aagtagacta acattttgca tacttatttc atctatccct    7800
tcccccaccc atgcacctgc ttctcccaca cctgctagag ttttcaaagc aaatctcaga    7860
catcgtatca tttcatccgt aaatatttct ctatacccgt acatgtatct ctaacaaata    7920
aggcctcttt tacttaaaca tcaccataaa atcatgatca cacctaaaaa ataacaataa    7980
tttcttcata tcatctactg tgcagtcact gttcaaattc ctccaatcat ttcaaataca    8040
tccttttaca gttggtttgt tccaattagg atccatgcct ggtccatgca gtgtatttgg    8100
ttgctgtgtc ttctatagct tttaaaatct agaacagtcc tccccctac cttttcttgt    8160
ttatttgttg aagaaactgg gtcatttccc catattttgg atttggcgtt gttttaatgt    8220
gtcatttaaa agtattcctt tccttgggta tttcctgtaa acaacaggat tagaagcttg    8280
gaggaaacgc agtttaattt tttttttttt tttttgccg tgaataactc agtggtagag    8340
ctatgggttt cctctgttct cctgtcagca gcccctggtg tctgttgtct tgttacgatg    8400
ttaagattga tcaactggtt tagacattgc gagtctgatc catccactat aaagtttccc    8460
atcaaccata tacttagtga tttttaggagc cattaatgat caatgcctag gcccattatt    8520
tcattaggat cgcaaaagga tgattttctt ttctttcttt tttttttttt gagacagagt    8580
ctcactgtgt tgcctaggct ggagtgcagt ggcgtaatct cagcctactg cgacctccgc    8640
ctcccaggtt caagcgattc tcctgcctca gcatcccgag tagctggcat tacaggcacc    8700
cactacctgg ctaattttttg tattttttagt agagatgggg tttcaccatg ttggccaggc    8760
tggtctcaaa ctcctgatct ccagtgatcc acctgccttg gcctcccaaa gttctgggat    8820
```

2687

```
tacagccact gcccctggcc aaaaggatga ttttctattt ctatcttcta cttttaatca    8880
ctagaattct tctagaaaga aaaacattcc ttactatttt gttacccaga aataaatgct    8940
tggcttacac atttatttac cagtctcaaa tatgagttgg tgccctagtg accttcaggg    9000
atggctacta attgtttctt ttataatatt tcattttaaa atatatttga catgttttaa    9060
tctgttctgt catgattctt cttgatgctc aaattgtctc acctttggcc attgaaaact    9120
ttaccagccc agaatctgtg tcttttagat gaaatcacat tatttctaga gagtttcctt    9180
actttctaac acaattaaat gttcaggtcc atttcactag gtgtgtttct tgccctagac    9240
atgaaattgt cattttttccc aactagccct gggtttcttt aattggaaat ggtagagact    9300
acagtctgga tgctgaggtt ttttattgct cctgggttgt cactgctttt gggttttgga    9360
tagagttaac atatatataa ttttttttata agaaaaatat cataaatact taatactgat    9420
atttttattc aaatttttat ttccttgatt ttacatttgt agccctttct cttcctctga    9480
taaacttggt tcctaacata tgcatatgta aatgtacata cacatatata gtattttaaa    9540
tataattact ggttttacca atattgatgt tacttgataa caatacaatt gctaaatact    9600
gttgctactt ctttgtttcc ttttttctgt ccttccttat tcctttctca tccttaggat    9660
atatcccatt agagatgtac agtcaaattg ccatattttc ttctttattt ttagggatga    9720
ggtctcactc tgttgcccaa gctggagtac agtggtacga tcacggctca ctgcagcctc    9780
aacctcctgg gctcaagtga tcctctccct tcagcctccc aagtagcttg gactacaggc    9840
atgcactacc atgtctggct aatttaaaat aattttttttt ttttttttt tttttttttt   9900
ttttttggaaa aggaagggtc tttgttgccc aggctgatgt ctaactcctg agctcaagca   9960
atcctcttgc cctggcctcc caaagtgttg ggattgtggg tgtgagccac cacactgggc   10020
caaattactg attttaaggg tcactaattt ggtatagagt tatgttcatt gatttcattt   10080
tattttgttt ctgattttta aagattgttt tacttgtttt cttcctatta ttattttatt   10140
ttatttgtaa aacatttaca tatcagacat ttacatttttc ccaaaggtaa aactgtgaaa   10200
caagatatat tcaaagaagt ttactttccc tctctgtttc ttgtacccct tttcctcttc   10260
tttaggtaac cattttttatt ttttttaaata taaacattgt gtaggtgtat atacatgtat   10320
tagtctgttt tcatgctgct gataaagacc tatctgagac tgggaagaaa aagaggttta   10380
attggactta cagttccaca tggctggcaa ggcctcagaa tcatggcagg aggtgaaagg   10440
cacttcttac acggtggtgg caagagaaaa atgaggaaga atcaaaagtg gaaacccctg   10500
ataaacccat cagatctcgt gagatttatt cactatcaca agaatagcgt gggaaagact   10560
ggcccccatg attcagttac cctcccccac tgggtcccac ccacaatacg tgggaattct   10620
gggagatata attcaacgtg agatttgggt ggggacacag ccaaaccata tcaatacatt   10680
tccctctctt ttagataaaa ggtagtatac tgtatacact attctgcaga gtttttttttt   10740
tttttgatgt aactctatcc tgagggtgct ctgtagcagg gacctctcat gccttttaac   10800
cactgcctgg gtctccatta catggctgca gcatagttgc cacagcattc ctgtactgat   10860
gactatttgg attgtttcca gtcttttgct attaccagta gtgttacaaa gaggatctgg   10920
ctacatgttc agggtgggga ggggcagatg tgtagcctgt caggagggta ttgcagtaat   10980
ccatgactga gttaatggta gtttaaagct aggatgagtc agtggggttg gagagaagtg   11040
ggcacatttg aatgatatgt aggaggtgaa tgatcagcat tattgatgag tttgaggtgg   11100
ggcatgtggg gaaaggattc gaggatgact cccaggtttc tgttgggaca gtggatggat   11160
agtggctcct ccccttttttc caatcttcct tggcccttcg ctgacttctg ttgggttggc   11220
ctacagagag cttctttttc ctctctgttc gcccaggttc ctccactttg gcggtggccc   11280
tctgctcgac ggtgccttcg ctggccctga catccctgct gtgcctgggc ttcgccctct   11340
gtgcctcagt ccccatcctc cctctccagt acctcacctt catcctgcaa gtgatcagcc   11400
gctccttcct ctatgggagc aacgcggcct tcctcaccct tgcgtaagtg gccttggggc   11460
gggctctgtg gagacggaca cactgggca aagagaagct ggaggtaaag aaattgggag   11520
gcaaggcggg gcctggaggc agtcaggtgc gggagactgg gtttggggggc aggtgtggag   11580
ggggtgagac cagaggtggt gggaaggata gaacattcat gcacttgagc ctttacatct   11640
gcggtgccct ctccctctgt tttctacctg gtgaactcgt attcatcctc tgaggcccac   11700
ttctgtttca gttctccagg gaagaaatgg aaaagtgtct tcccttcttt gtgcccttag   11760
tactctagtc ttacttcctt tgctagtgcg tgcattgtct ggcatgccat ccatttacat   11820
gcctgtcttt tctttcctgg tgcagcctgc atgagggtcc tgtctgtttt tccagggccc   11880
cgcatgtgcc ttcttctggg ttctgtgggt caaatgtctg agcagagctg aagagggaaa   11940
ggccagacag gtgtggttgg agggcaggcc taggacaggg gagctgggga caagcggccg   12000
acagccccca gaggccaggc ttctgcttgg agggaggggtc cctgaagctc actggaaccc   12060
ctctggtttc tctccccagt ttccccttcag agcactttgg caagctcttt gggctggtga   12120
tggccttgtc ggctgtggtg tctctgctcc agttccccat cttcacccctc atcaaaggct   12180
cccttcagaa tgacccattt tacgtgagta ctgggaggat ggggatccct ggcaggaggc   12240
ctgggcctta ggccttggct gccccaaatc tggctgtgat ggcctgggta tgtagcatgg   12300
tgcagcttcc caaagggtct gtgttattca agtatttggg gcaaaagtat ttgtgtgtgt   12360
gggaaacag acattctgga gtagggtggg gaattctcac gaaacttcaa gcaaaatcct   12420
gagacctcaa aggtgtttcc tgcttgtggt gagtgcaggc ccaccctggc ctctcccta   12480
```

                                      2688

```
ggcccacaca gggtttccac agttggcccc agggacagga cctctgtgct ttcacctctg    12540
tgtccttaca cctggaggga tgctctgagg tcctgctcta ggaggtggtc gtgagtctcc    12600
tgctctttgc agaaactgag gctcaaagag gttacttacg tgttcagagg caccagctaa    12660
ggagcaaaag tcaactttga attctgtgtt ttgactactg cacagctcta tttgcctcat    12720
tttttatttt taaagcagca aatcttagaa taggagttta aatccatcac ttggagaaaa    12780
gaaagactaa atgttttttg tttttgtttt ggagacacga tcttgctttg tcacccaggc    12840
tggagtgcag tggcacaatc tcggctcact gcagcctcga tctcctggac tcaagcgatc    12900
ctctcatctc agcctcctga gtagctgaca ctacaggcat gtgccaccat gccaagctta    12960
ttttatttta ttttttgat agacactggg gtttcgctat gttgcctggg ctggttttga    13020
attcctggcc tcaagcgatc cacccgtctc tgccttccaa aatgctgtga ttacaggcgt    13080
gaaccactgt gcatggccaa aagagtaaac ttgaaatctg aggcgaatga cttgattgtg    13140
acatcaggtg acctagtaat cagctgtgta ttctagctgg tgcctctacc agcttcccat    13200
gtgaccttga acatgtcatt gaatgctcgc taggcctctg tttctttatc tgtgaaatgg    13260
gcttgatatt cctcctctac cccaaccgat agtgcagaat gaaaagtaac tgaaagtcct    13320
tcctccaggg caccatagtg tctgggtgaa aagtagaata taaactcggt agacttctgg    13380
tcccttcatt ggtcatggaa tggaccagtg cttgcttcat tgagcaacag ttctgttgtt    13440
cagaattcct ggatttcacc tcacttctgc tctccctgca ggtgaatgtg atgttcatgc    13500
ttgccattct tctgacattc ttccacccct ttctggtata tcgggaatgc cgtacttgga    13560
aagaaagtcc ctctgcaatt gcatagttca gaagccctca cttttcagcc ccgaggatgg    13620
ttttgttcat cttccaccac ctttgaggac ctcgtgtccc aaaagacttt gcctatccca    13680
gcaaaacaca cacacacaca cacacacaca caaaataaag acacacaagg acgtctgcgc    13740
agcaagaaaa gaatctcagt tgccaagcag attgatatca cacagactca aagcaaaggc    13800
atgtggaact tctttatttc aaaacagaag tgtctccttg cacttagcct tggcagaccc    13860
ttgactccag gggagatgac ctgggggagg aagtgtgtca actatttctt taggcctgtt    13920
tggctccgaa gcctatatgt gcctggatcc tctgccacgg gttaaatttt caggtgaaga    13980
gtgaggttgt catggcctca gctatgcttc ctggctctcc ctcaagagtg cagccttggc    14040
tagagaactc acagctctgg gaaaaagagg agcagacagg gttccctggg gcccagtctc    14100
agcccagcca ctgatgctgg atgaccttgg cctgaccctg gtctggtctc agaatcactt    14160
ttcccatctg taaaattgag atgaattttg gtgttgaaag ttcttcctgg agcagatgtc    14220
ctagaaggtt ttaggaatag tgacagagtc aggccacccc aagggccatg ggagccagct    14280
gacctgcttg accgaaggat ttctgacaga ctatctttgg ggatgttttc aagaagggat    14340
ataagttatt tactttgggc atttaaaaga aaatttctct cgggaataat tttatagaaa    14400
aataaagctt ctgtgtctaa ggcaa                                          14425


<210> 5762
<211> 3141
<212> DNA
<213> Homo sapiens

<400> 5762
gctcgacggt gccttcgctg gccctgacat ccctgctgtg cctgggcttc gccctctgtg      60
cctcagtccc catcctccct ctccagtacc tcaccttcat cctgcaagtg atcagccgct     120
ccttcctcta tgggagcaac gcggccttcc tcacccttgc gtaagtggcc ttggggcggg     180
ctctgtggag acggacacac tggggcaaag agaagctgga ggtaaagaaa ttgggaggca     240
aggcgggggcc tggaggcagt caggtgcggg agactgggtt tgggggcagg tgtggagggg     300
gtgagaccag aggtggtggg aaggatagaa cattcatgca cttgagcctt tacatctgcg     360
gtgccctctc cctctgtttt ctacctggtg aactcgtatt catcctctga ggcccacttc     420
tgtttcagtt ctccagggaa gaaatggaaa agtgtcttcc cttctttgtg cccttagtac     480
tctagtctta cttcctttgc tagtgcgtgc attgtctggc atgccatcca tttacatgcc     540
tgtcttttct ttcctggtgc agcctgcatg agggtcctgt ctgttttcc agggccccgc      600
atgtgccttc ttctgggttc tgtgggtcaa atgtctgagc agagctgaag agggaaaggc     660
cagacaggtg tggttggagg gcaggcctag acaggggag ctggggacaa gcggccgaca      720
gcccccagag gccaggcttc tgcttggagg gagggtccct gaagctcact ggaacccctc     780
tggtttctct ccccagtttc ccttcagagc actttggcaa gctctttggg ctggtgatgg     840
ccttgtcggc tgtggtgtct ctgctccagt tccccatctt caccctcatc aaaggctccc     900
ttcagaatga cccattttac gtgagtactg ggaggatggg gatccctggc aggaggcctg     960
ggccttaggc cttggctgcc ccaaatctgg ctgtgatggc ctgggtatgt agcatggtgc    1020
agcttcccaa agggtctgtg ttattcaagt atttggggca aagtatttg tgtgtgtggg    1080
gaaacagaca ttctggagta gggtgggggaa ttctcacgaa acttcaagca aaatcctgag   1140
acctcaaagg tgtttcctgc ttgtggtgag tgcaggccca ccctggcctc tcccctaggc    1200
```

```
ccacacaggg tttccacagt tggccccagg gacaggacct ctgtgctttc acctctgtgt    1260
ccttacacct ggagggatgc tctgaggtcc tgctctagga ggtggtcgtg agtctcctgc    1320
tctttgcaga aactgaggct caaagaggtt acttacgtgt tcagaggcac cagctaagga    1380
gcaaaagtca actttgaatt ctgtgttttg actactgcac agctctattt gcctcatttt    1440
ttatttttaa agcagcaaat cttagaatag gagtttaaat ccatcacttg gagaaaagaa    1500
agactaaatg ttttttgttt ttgttttgga gacacgatct tgctttgtca cccaggctgg    1560
agtgcagtgg cacaatctcg gctcactgca gcctcgatct cctggactca agcgatcctc    1620
tcatctcagc ctcctgagta gctgacacta caggcatgtg ccaccatgcc aagcttattt    1680
tattttattt ttttgataga cactgggggt tcgctatgtt gcctgggctg gttttgaatt    1740
cctggcctca agcgatccac ccgtctctgc cttccaaaat gctgtgatta caggcgtgaa    1800
ccactgtgca tggccaaaag agtaaacttg aaatctgagg cgaatgactt gattgtgaca    1860
tcaggtgacc tagtaatcag ctgtgtattc tagctggtgc ctctaccagc ttcccatgtg    1920
accttgaaca tgtcattgaa tgctcgctag gcctctgttt ctttatctgt gaaatgggct    1980
tgatattcct cctctacccc aaccgatagt gcagaatgaa aagtaactga aagtccttcc    2040
tccagggcac catagtgtct gggtgaaaag tagaatataa actcggtaga cttctggtcc    2100
cttcattggt catggaatgg accagtgctt gcttcattga gcaacagttc tgttgttcag    2160
aattcctgga tttcacctca cttctgctct ccctgcaggt gaatgtgatg ttcatgcttg    2220
ccattcttct gacattcttc cacccctttc tggtatatcg ggaatgccgt acttggaaag    2280
aaagtccctc tgcaattgca tagttcagaa gccctcactt ttcagccccg aggatggttt    2340
tgttcatctt ccaccacctt tgaggacctc gtgtcccaaa agactttgcc tatcccagca    2400
aaacacacac acacacacac acacacacaa aataaagaca cacaaggacg tctgcgcagc    2460
aagaaaagaa tctcagttgc caagcagatt gatatcacac agactcaaag caaaggcatg    2520
tggaacttct ttatttcaaa acagaagtgt ctccttgcac ttagccttgg cagacccttg    2580
actccagggg agatgacctg ggggaggaag tgtgtcaact atttctttag gcctgtttgg    2640
ctccgaagcc tatatgtgcc tggatcctct gccacgggtt aaattttcag gtgaagagtg    2700
aggttgtcat ggcctcagct atgcttcctg gctctccctc aagagtgcag ccttggctag    2760
agaactcaca gctctgggaa aaagaggagc agacagggtt ccctgggccc agtctcagcc    2820
cagccactga tgctggatga ccttggcctg accctggtct ggtctcagaa tcacttttcc    2880
catctgtaaa attgagatga attttggtgt tgaaagttct tcctggagca gatgtcctag    2940
aaggttttag gaatagtgac agagtcaggc caccccaagg gccatgggag ccagctgacc    3000
tgcttgaccg aaggatttct gacagactat ctttggggat gttttcaaga agggatataa    3060
gttatttact ttgggcattt aaaagaaaat ttctctcggg aataatttta tagaaaaata    3120
aagcttctgt gtctaaggca a                                              3141


<210> 5763
<211> 576
<212> DNA
<213> Homo sapiens

<400> 5763
aaaagtgagt caacttaaaa cattttagca aataatagga caggcatagg ttgtggccag      60
aataatggtg ggcagaagtc tggtttgggg aggaagaatt tgtcaagggt tcccctagcc     120
cagctcttga gctttttttgc tgtggtctca cacttaccag acctgttata accatttgtt     180
tgcatgtcag tctatttaag ggcaaggact atctgattca tcttgcattt ccagtgccaa     240
gcacaatgcc tggcaccaaa gaagtgctca gagtttagtg aacaaagaaa agaccatggt     300
ccttttctca ctcagttctc atagcacctg agacaggaag agcaggaact gttgttccca     360
ttaaacagat gattgaagct caaggccaat accatgaatt agggaatggg ctagagggtt     420
gagccaggga cctgagtcca gggtcttctt ttccaggagt gtcaaggatg aaagggagag     480
gcagcttgtg gtttactgag ggaagagaga ggtggcttca cttagagctc tgcctctgtc     540
tgtagacttc ctggcctgcc acagactgag gaccaa                              576


<210> 5764
<211> 379
<212> DNA
<213> Homo sapiens

<400> 5764
gtgaaatcca tctggtctgc tgggatcctg ctcaaaatgt catcttctcc aaaaatcatt      60
actcaggctt tccagcatgt ctgagtccct ggcacttggt cacacccttc ctggtgactg     120
```

2690

```
gcatttgcct ccacatcatg accctcccac cccttgcctg ggcagcatac tccaggaggc      180
aaggtctgtt ctcgcctggc tctaattaat ctgtgcttac catccacatg gtaccagcta      240
attcttgttg aatgaatgat cgttgaatga gtggattctt gttttggcct cagaaccaat      300
tagaaggagc cagaaaaaca catggggggtg ggggaggtgc agtgtggtgc agtggaaaaa      360
aacccttctg gaaatctca                                                   379


<210> 5765
<211> 379
<212> DNA
<213> Homo sapiens

<400> 5765
gtgaaatcca tctggtctgc tgggatcctg ctcaaaatgt catcttctcc aaaaatcatt       60
actcaggctt tccagcatgt ctgagtccct ggcacttggt cacacccttc ctggtgactg      120
gcatttgcct ccacatcatg accctcccac cccttgcctg ggcagcatac tccaggaggc      180
aaggtctgtt ctcgcctggc tctaattaat ctgtgcttac catccacatg gtaccagcta      240
attcttgttg aatgaatgat cgttgaatga gtggattctt gttttggcct cagaaccaat      300
tagaaggagc cagaaaaaca catggggggtg ggggaggtgc agtgtggtgc agtggaaaaa      360
aacccttctg gaaatctca                                                   379


<210> 5766
<211> 1297
<212> DNA
<213> Homo sapiens

<400> 5766
tttgaaaaac agagacaaaa ttagtgaact caagtttgtg aactcaagat aaatgctaaa       60
tttgacacca tggtaaatac tactgttgag tttaaagttg tcccagaatc cagcatatta      120
attaaaagtt actgatttct agtcctttat tcatattttt atagctttta aaaattattc      180
tttagatttt gaaatgctta aaactacaga cttagaaaat aatattcaaa tatgtgtgat      240
caaccatcta gaataaataa atgctaatct ttgtcatttt tgcatcagct attttaaaat      300
aattaaaata ttagaaatac agttaaaatc acctttgttc tgcttctagt ccaacttata      360
cctttattaa aatttggtgt gtgtatccat ccaatctctg ttttcagatt gttttattat      420
gtgctttaag tccacataaa tgatctcata ctgtatgtat cactgtagaa ttttttcttc      480
aaaattgtat ttttgaactt tctgtatata tatatttctt taattttaac cattttatga      540
attctaaagt ttatatattt ccccaccttta atacattatt tccaattttt caattacaag      600
caatgtaatc taaaatgtac actttcgtat ggttttcttc tgtatatgtg caatattttg      660
tctaggatat atacctaaaa gtggaattgc tattatagag tgtgtgcttt ttcagcttta      720
ccacatattg ctaaattgct gtctgaagca aatgtggcag ttcacactgc tgtctagaat      780
tttctcatat ccttattaga ttttgaattg tcagaccctg tgatttttac tcttatgatg      840
gctgtgatat gctttttttgt tttaatttgt tcttcccctta ttatttatgg gaataaatat      900
attaccatgt ttaaacagca tttggatttt tttcttctat caacaacata tataaatctt      960
tgtcaccaaa tcagcttttt tgaggtatga cttacacgta ataaaatgtg ccaattttga     1020
gtgtaccatt ctctgaattt tgacaaatgt atgaagctat gtatccatca ccacaattga     1080
gttacaaaac attttcagaa tgccaaaaaa atgctccatt gtggtaactg tcttttcccc     1140
cattgaatta attttctcgg tacattcgtt gaaaattgat tgaccacact atgtgtgaat     1200
ctgtttctgg actctattat tctcttgatc tataattatg ccagtaccac agtcttgatt     1260
actgtagctt tacaataaat cttgactgta gatagtt                              1297


<210> 5767
<211> 8941
<212> DNA
<213> Homo sapiens

<400> 5767
caacggctag tcaacggctg cggggacaag tccgttgagg ctgccaggcg agtcaggcct       60
ttctggacct cgcctgactc ggatgggctg tgcctgaaat tgacccagct ccactaggga      120
ttatgaagaa acaaggagta aacccaaagc cgctgcaatc ttcccgcccc agccgtcta      180
```

2691

```
agcggccgta cggggcctcc cccgcccggg agctggaggt ggaaaagtcg gccctaggcg    240
gcgggaaact gccagggggc gccaggaggt cctccccggg gaggatccca aatctgaaaa    300
agcgaaaagg cttggagcta aaggtggtgg ccaagaccct tctcgacccc ttccagttcg    360
tccgtaattc cctggcgcag ctccgggaag aggtgcacga actgcaggcg cggtggttcc    420
ccagcagaac cactctcagc atcggtaagg agagggcagg agagccctag gagggagccg    480
catggcgctt ttcttgagtc ttgaaggaga tcagtttaac aagcaagggt ttgtgggtgc    540
ctagtaggaa ataatagcaa ggtctgagta gaaagaagtt ggccaaaaat cttgtcattg    600
aaccagagga gagagagaga tagggagtat attggtttga agggctgtca gatcgcagag    660
agtgttttaa ggtctaggag ttttaaaggc tgggggcaag gatcaaggga agaggatgag    720
attaagattc caagagagga aataattagt ggagcaagtc ttggaatatt tggaggggta    780
gagttaaggg cacaaatttg ataagctaac tgtggaaaag aggagagaga cttccttttc    840
tgagatggca gggagtagaa aagcgagaat tactatatgg agaaatgtta aagtggagat    900
aaaagaagtt gggagtgctg gcgtctaatg gtctttgttt cagtgaagta tgaggctggg    960
tcaccttcag aggtgagatt gataggatgc cggggtccgg gggacatgct tctgtcacag   1020
cttggaaagg gcatgtgata agcccttcaa gcattagaa tactggcatc gttacaccat   1080
atcatttttt tcagatgtgg tatgtgggtt aagggaggga gtgagagaca cagaaagatt   1140
ttgagcatct ttggaaagct agatgaattt ggtactatat ttgacctttt ccttatatat   1200
catctgaaga gttttttcag tgtatataat tgttaggaga attagaaata ggatacaaat   1260
atagttgaac aggatagtct ctgtatattt taaaattaat gaagcctaat aaacagttat   1320
gagcatcttt acaaccattt aaagttttca accttttaaa aattatagca accgtgcttg   1380
cagacagtcc aaaaatacac catgggccat actttgctta tcctggtata aaacaagtaa   1440
atcttccggg aagtgtttaa gataagccca ggacagttag taatatagga aaagatctgg   1500
gtaagcatgg ttgagaattt caacattgca attttttaat ttttaaaaat ttaatttctt   1560
caataattat tgaattaatt tgcatttatt ttgttagcca agtgaagtaa ttttttgaatt   1620
tttaagaggc tattattggt ggtttataag atgacttgcc aagtatattt gggataacca   1680
taagaaatac tattataaaa tctcagaagg gaggtaggac ttctggaata gccaagaaaa   1740
tgcactcctc catgacgaca atgaaaatac ttggaaaatt atcaaaatca ttttcttcaa   1800
actttggaaa ttaaccaaag gtttacaaca atctaaaggg cattaattca agaaaagctg   1860
ctgaacctct ataagaacag cagagtttgt ggtgttttaa cttgttctat tccccactct   1920
tctctctcca ggggaattga aaacaagcaa ttccccaacc aaacaggggc acaggctgcg   1980
tttgcagctc ctgtaaaagc tccatcccca gagcagtgtc tcccagctcc caggtgaagt   2040
cttatgtata catgggggcgt tggcccacgt gactccagac tagtctccta ggccatctag   2100
tagcttctag gtctgggctc ttgcaaagag cttgcaattc atcaagggtt gagctgcaca   2160
ttggggcttt tagatgtgct gctgaggaag tgattcctg cgtttaatca tcttctgatg   2220
aatggtagag aaactgatct agagtggctc ctcttggtta gaactagctg aagcatactg   2280
tatatactta cttctttttaa aaatttctta taaaggaata gaaaataata ctgaaaaaaa   2340
aacaaaaaag gtcacaatct tccataattc catcactctt accaattacc tgaagtaaaa   2400
aaaccctctc aagtttctcc ctttacttgt cgagccctgc tgcagagagg taagctctgt   2460
tcagaatttg ctttgtgtcc tggatttttt cctatgctca tagagacagg attagctggc   2520
tgtcttgctt tgtgtgctat ctttctagac atgtaaaata atacatttga aatacttgtt   2580
ttaatggtat tttataataa agcagctatt aataactttc ctttttttttt tattccagcc   2640
atctttgtgg caattctaca ttggtaagat ttagtttcag tttgaaatat ttaaaaactt   2700
ttgaattaaa aatcgccatc actctttgca tacagtaaaa caataacttc tggctatatt   2760
tgtagaacat ctttatgtgc accaatttat acatgtattt tgctttttta caaacctcat   2820
atgtgaaaca gcatttacaa aatagatgca ttaggggaat agtaacttac gaattaaaat   2880
attttgctt taccaaataa ttcaccacac gtttctttaa atatctggct tctctagtgt   2940
attttgcatg tgtagttcat ttaaaacctt cctttatttt atggtaatta tatgttgcta   3000
gtgaaataac ttttttttttt tttttgaga cagagtcttg ctctgtctcc gaggctggag   3060
tgcagtggcg tgatcttgac tcactgcaac ctctgcctca caggcaccag tgatcctcgt   3120
gcctcagcct tccaagtagc tgggattaca ggtgtgcacc accacaccca gccaatttgt   3180
tgtattttttg gtggagacaa ggtttcacca tgttggccag gctggtgtca aactcctggc   3240
ctcaaatgat ccacctgcct cggcctctca aagtgttggg attacaggcc tgagccacca   3300
cactcagcca gtgaaataac tttggtgata aagtttttagt aacacctgcc aattggaaat   3360
caggtaaaaa agaagataaa gattctgcag tggttatatg gttaaatggc tctgagtctt   3420
tcagtgtgca agtctgtgta cattattttta caaaaatgtt tataaaaatt tgtaaaataa   3480
tacttccttc tggaatattt tcttttacc tgtgctcagt gatttctacc cttggaaggt   3540
atgagatctg ctcctatgtt ctgttgacac agtgctgctc tagacatttta gtctgcaggg   3600
agcttttgat gttagaactg aggctgcaat ggtagggaat attcctgcag ttttttggtaa   3660
cctggcatat agcctacatg taaagaaggg ttagtggaaa acagggttaa tatatggaac   3720
tttgctttat tttcaacttc actggaaagt actgactaca taagttagct atagcataat   3780
tgttggccac agctaatttt gtttatcaca tatgctcctt tcttcactgc cgacagctgt   3840
```

2692

```
tgagtttcac tactaaaagg tcttcaagta cacacctgta ttctttggca cttgaaagtt   3900
gatcccttat gtgatattat acttattgta agtctgcttt gatctaaggt aatttttattt   3960
aaaattatat tctgaaccct tttcaacagt tacggaggta tttcccaagg ctggtacatt   4020
agaatcactt gaaacttaaa aaacaaacac taacctgcct ctgttctgat ttagaggcct   4080
gggatggaag gaagggtgaa aaaagccaca agaattttag atatacaatt aaggtgtttt   4140
ttttgtttgt ttgtttttttt gagatagagt cctctatctg actcccaggc tggagtgcaa   4200
tggcatgatc tctgctcact gcaacctcca cctcctgggt tcaagaaatt cttctgcctc   4260
agcctcccta gcagccagga ttacagacat gcactaccat ggctggctaa ttttttgtgtt   4320
tttagtagag acggggtttc accatgttgg caaggctggt ctcgaactcc tcacctcaag   4380
tgatctgccc gcctcgggct cgggctccta aagtgctgga attacaggca tgagccaacg   4440
cacccggcca caattaagct taaaaaccac tgagttaagg agtttcaggt gtgtgccata   4500
ctggattata aatgcctaaa aacatacaag ttagtaggca aattataaaa ttaatattat   4560
aataatttat tgttttcttt tttatggctt tcttattgct tattttactg ttagtttttga   4620
aacttgttct tattgtaata tgatacttaa tttttttcta ggttacattt agtaacactt   4680
tttgaaaatg atcgtcattt ctctcacctc tcatctttgg aatgggagat gacttttcgc   4740
actaaaatgg ttagatttct tcttctaacg aattaatttg tggtttaaga atagcgagac   4800
tatgaggtag aaatgtatta ggaattgaaa tgaactttttg gtgaattgca ctgtttcata   4860
agctataacc caggtttatt atttaaatag taaagtgttt gagattatttt ttctttttact   4920
tcattatctc tcacccttttc ctaatgcaga cttctttttta agataataaa gatgaattat   4980
aatagctgag gaaggaggac aaagaaagca ctgaagaagt gataaagggg aatgaaatga   5040
gatgttatca gaaattgctt tctctttggc tacagttagg agatcccatg ttttacctgg   5100
gccttttaat gatgacgatt attatttggc tctctttttga tttcaagata atctcttcta   5160
agagataact tttgatataa ttttttaaata attttctgtt tttcaatact taatctttaa   5220
aatggagttt tctgccgtac atatctcaca taattattgt gaggagtaag tgggatagca   5280
aatgccaaaa ttgcgcaatt ttacatttag aagacaccac aaccgtccat cttccagatc   5340
tgctcacagc tggtcgggcg cctagtgaag cattgaaact ggctctcctc agtctagcca   5400
ttgctttttg tttaaattat ggtaaaactt agatttaaat ttgtaataaa aaatttcaat   5460
gtttatcctt taagcataca attcagtgag attaagtaca tttatgttgt cttgcaacta   5520
ttaccactgt ccacatccgg aactttttgc tatcccaaac agaaactcta cccactaaac   5580
actaatcaca cccagctcta ttttctgtct ctatgatttt gcctatgcca ggcccctcag   5640
tcactgcttt ttaatttttca tccctatatt gccctataa agtttcaaag cattggatac   5700
attaacatat gtatgacatt tgaacatttt aaaggtattt ccaaagacag aatataaaat   5760
attattaaat aaagagcgta actgtggcag agtctggact ttggtgacag atcgctggat   5820
tctaatagca gttctgtgct ttattgtatg atggctagtc aggtcacctc tcagattctc   5880
agtaatctcg tctgctcaat agaaataatg ccaaccttag aggggtttag ggaaaatgaa   5940
gggagataat gaatggcaac acatagcaga atacttaaca caaaacaata gctgttatta   6000
gtaacttatt tatatatttta atatttcctt aaatatagtc ttttgcatat tagatatcct   6060
ttaattgttg tattgctttg ttatcctcct aagcagaaag gaaaattctt tatgaattca   6120
tattttgcca atcaactatg aggtaatggc ctttcagaca tcagctaaaa cagacctgta   6180
atttagtagt tactcgtgtt ggatgaggca gatatgatta tagcatatag catttttttag   6240
ggagaatgca ttttaaacaa tgtggcccctt ttttgctttt agattttagg agtgaaagca   6300
agaaattgtt ggggaaataa gacacaacat gctgttgtta atccatgaat tttaactcaa   6360
cagcactttt actatcccaa tgaagccttt attttatatg ctgaagtata agacactaaa   6420
ataagctgct ttttagtaca tagcatttgt gagcaacaat agtcaattga cattgagctt   6480
tcactttgca cagaggatta gatggagcta tgaattaagc tagaagcact ggattccttg   6540
ctcgtgatgc ttatggtcat tatattttat ttcctaagag catgggaaaa aaagtaattt   6600
tctatatgca aagttgtaca gaggcatgaa ggcatccctg tttatgatag aattaatcag   6660
atatcaacct tcaagcatct caaatgtggg ggataaaacc agatttggga aaatcaaaca   6720
tatactgtct acacatttta agacattatt agagaaactc tttaaattgt ttgaccatcc   6780
ctccaactct ttagtttgaa agcctataga aaatttgaaa gaatagtaca gtgatcacct   6840
gaaaatacgt gttctttaaa gtccaagaat gcaaatagc gaggagtgat taagaagtct   6900
tattattaac tttttttttc agaaaaaaag ttctaaagaa gtgataaaaa taaatatttt   6960
aaagttttaa ttccattgac aatatgtgcc tttttttttt ttaaaaaggg actttattat   7020
tcctacttca agaccatcat tgaagcacct tcatttttgg aaggactgtg gatgattatg   7080
aatgacaggc ttactgaata tcctcttgta attaatacag taaaacgctt ccatctttat   7140
ccagaggtga gtcataattt gagacaaata atatttgtag agtgatcctc tttgtcagat   7200
aaaaatagta agcacaatct tgttaagaaa gggaggggac gtttcaggtt tactaattgt   7260
atgtatcctt atagttgagt agagtatcat aagttcctct cttaaaattt aaagaccca   7320
gaaactgttc tctcatgaac tcaaagaatg aaacttagtg tgtaaataat ggccagggta   7380
atagacaagc caaatggaaa agagagtcat gggagccaaa aagttctaaa tagggatggg   7440
cttttggctt tggacacctc atgggtgagc acgatgacca cgtgaaggga cagtgagagt   7500
```

2693

```
gatgagcttg aatagtgatc ttggagttac gttagtaaag taagatttat ttagtcacac   7560
agccagaaat ctattactat tttccaacac ttagcctaaa agagtatggt tgttatagta   7620
gtctataaat gctagaaatt tgaaaaacgg agacaaaatt agtgaactca gtttgtgaac   7680
tcaagataaa tgctaaattt gacaccatag taaatactac tgttgagttt aaagttgtct   7740
cagaatccag catattaatg aaaagttact gctttctagt cctttattca tattttttata   7800
gcttttaaaa attattattc tttagatttt gaaatgctta aagctacaga cttagaaaat   7860
aatattcaaa tatgtgtgat caaccattta aaataaataa atgctaatct ttgtcatttt   7920
tgcatcagct attttaaaat aattaaaata ttataaatac agttaaaatc acctttgttc   7980
tgctcctagt ccaacttata cctttattaa aatttggtgt gtgtatccat ccaatctctg   8040
ttttcagaga ttgtttttatt atatgctttt aagtccacat aaatgatctc atactgaatg   8100
tgtcactgta ggattttttt cttcaaaatt gcatttttga actttctgta tatatatatt   8160
tctttaattt taaccgtttt atgaattgta aagtttatgt atttccccat cttaatatat   8220
tatttccaaa ttttttgatta caagcaatgt aatctaaaat gtacattttt gtatggtttt   8280
cttctgtata tgtgcaatat tttgtctagg atatatacct agaaatggaa ttgttgttat   8340
acagtgtgtg cttttttcagc tttaccagat attggtaaat tgctgtctga agcaaatgtg   8400
gcagttcaca ctgctgtcta gaattttctc atatccttat tagatttttga gttgtcagac   8460
cctgtgattt ttactcttat gatggctgtg atatgctttt ttgttttaat ttgtacctcc   8520
cttattattt atggggataa atatatttcc atgtttaata aacatttgga tttgttcttc   8580
tagcaacaac atatataaat cttttgtcacc aaatcagctt ttttgaggta tgacttacat   8640
gtaataaaat gtgccaattt tgagtgtacc attctctgag ttttgacaaa tgtatgaagc   8700
tatatatcca tgaccacaat tgagttacaa aacatttttcg gaatgccaaa aaatgctcca   8760
ttgtggtaac tgtctttttcc cccattgaat taattgtctc·ggtacaatcg ttgaaaattg   8820
gttgaccaca ttatatgtga atctgtttct ggactctgtt attctcttga tctataatta   8880
tgccaatacc acactgtctt gattactgta actttagaat aaatcttgaa agtagatagt   8940
t                                                                    8941


<210> 5768
<211> 8941
<212> DNA
<213> Homo sapiens

<400> 5768
caacggctag tcaacggctg cggggacaag tccgttgagg ctgccaggcg agtcaggcct     60
ttctggacct cgcctgactc ggatgggctg tgcctgaaat tgacccagct ccactaggga    120
ttatgaagaa acaaggagta aacccaaagc cgctgcaatc ttcccgcccc agcccgtcta    180
agcggccgta cggggcctcc cccgcccggg agctggaggt ggaaaagtcg ccctaggcg     240
gcgggaaact gccaggggc gccaggaggt cctccccggg gaggatccca aatctgaaaa    300
agcgaaaagg cttggagcta aaggtggtgg ccaagaccct tctcgacccc ttccagttcg    360
tccgtaattc cctggcgcag ctccgggaag aggtgcacga actgcaggcg cggtggttcc    420
ccagcagaac cactctcagc atcggtaagg agagggcagg agagccctag gagggagccg    480
catggcgctt ttcttgagtc ttgaaggaga tcagtttaac aagcaagggt ttgtgggtgc    540
ctagtaggaa ataatagcaa ggtctgagta gaaagaagtt ggccaaaaat cttgtcattg    600
aaccagagga gagagagaga tagggagtat attggtttga agggctgtca gatcgcagag    660
agtgtttttaa ggtctaggag tttttaaaggc tggggggcaag gatcaaggga agaggatgag    720
attaagattc caagagagga ataattagt ggagcaagtc ttggaatatt tggaggggta    780
gagttaaggg cacaaatttg ataagctaac tgtggaaaag aggagagaga cttccttttc    840
tgagatggca gggagtagaa aagcgagaat tactatatgg agaaatgtta aagtggagat    900
aaaagaagtt gggagtgctg gcgtctaatg gtctttgttt cagtgaagta tgaggctggg    960
tcaccttcag aggtgagatt gataggatgc cggggtccgg gggacatgct tctgtcacag   1020
cttggaaagg gcatgtgata agcccttcaa gcatttagaa tactggcatc gttacaccat   1080
atcatttttt tcagatgtgg tatgtgggtt aagggaggga gtgagagaca cagaaagatt   1140
ttgagcatct ttggaaagct agatgaattt ggtactatat ttgacctttt ccttatatat   1200
catctgaaga gtttttttcag tgtatataat tgttaggaga attagaaata ggatacaaat   1260
atagttgaac aggatagtct ctgtatatatt taaaattaat gaagcctaat aaacagttat   1320
gagcatcttt acaaccattt aaagttttca accttttaaa aattatagca accgtgcttg   1380
cagacagtcc aaaaatacac catgggccat actttgctta tcctggtata aaacaagtaa   1440
atcttccggg aagtgtttaa gataagccca ggacagttag taatatagga aaagatctgg   1500
gtaagcatgg ttgagaattt caacattgca attttttaat ttttaaaaat ttaatttctt   1560
caataattat tgaattaatt tgcatttatt ttgttagcca agtgaagtaa tttttgaatt   1620
tttaagaggc tattattggt ggtttataag atgacttgcc aagtatattt gggataacca   1680
```

2694

```
taagaaatac tattataaaa tctcagaagg gaggtaggac ttctggaata gccaagaaaa   1740
tgcactcctc catgacgaca atgaaaatac ttggaaaatt atcaaaatca ttttcttcaa   1800
actttggaaa ttaaccaaag gtttacaaca atctaaaggg cattaattca agaaaagctg   1860
ctgaacctct ataagaacag cagagtttgt ggtgttttaa cttgttctat tccccactct   1920
tctctctcca ggggaattga aaacaagcaa ttccccaacc aaacaggggc acaggctgcg   1980
tttgcagctc ctgtaaaagc tccataccca gagcagtgtc tcccagctcc caggtgaagt   2040
cttatgtata catggggcgt tggcccacgt gactccagac tagtctccta ggccatctag   2100
tagcttctag gtctgggctc ttgcaaagag cttgcaattc atcaagggtt gagctgcaca   2160
ttggggcttt tagatgtgct gctgaggaag tgatttcctg cgtttaatca tcttctgatg   2220
aatggtagag aaactgatct agagtggctc ctcttggtta gaactagctg aagcatactg   2280
tatatactta cttcttttaa aaatttctta taaggaata gaaaataata ctgaaaaaaa   2340
aacaaaaaag gtcacaatct tccataattc catcactctt accaattacc tgaagtaaaa   2400
aaaccctctc aagtttctcc ctttacttgt cgagccctgc tgcagagagg taagctctgt   2460
tcagaatttg ctttgtgtcc tggatttttt cctatgctca tagagacagg attagctggc   2520
tgtcttgctt tgtgtgctat cttttctagac atgtaaaata atacatttga aatacttgtt   2580
ttaatggtat tttataataa agcagctatt aataactttc ctttttttt tattccagcc   2640
atctttgtgg caattctaca ttggtaagat ttagtttcag tttgaaatat ttaaaaactt   2700
ttgaattaaa aatcgccatc actctttgca tacagtaaaa caataacttc tggctatatt   2760
tgtagaacat cttttatgtgc accaatttat acatgtattt tgctttttta caaacctcat   2820
atgtgaaaca gcatttacaa aatagatgca ttaggggaat agtaacttac gaattaaaat   2880
attttgctt taccaaataa ttcaccacac gtttctttaa atatctggct tctctagtgt   2940
attttgcatg tgtagttcat ttaaaacctt cctttatttt atggtaatta tatgttgcta   3000
gtgaaataac ttttttttt ttttttgaga cagagtcttg ctctgtctcc gaggctggag   3060
tgcagtggcg tgatcttgac tcactgcaac ctctgcctca caggcaccag tgatcctcgt   3120
gcctcagcct tccaagtagc tgggattaca ggtgtgcacc accacaccca gccaatttgt   3180
tgtattttg gtggagacaa ggtttcacca tgttggccag gctggtgtca aactcctggc   3240
ctcaaatgat ccacctgcct cggcctctca aagtgttggg attacaggca tgagccacca   3300
cactcagcca gtgaaataac tttggtgata aagtttagt aacacctgcc aattggaaat   3360
caggtaaaaa agaagataaa gattctgcag tggttatatg gttaaatggc tctgagtctt   3420
tcagtgtgca agtctgtgta cattatttta caaaaatgtt tataaaaatt tgtaaaataa   3480
tacttccttc tggaatattt tcttttttacc tgtgctcagt gatttctacc cttggaaggt   3540
atgagatctg ctcctatgtt ctgttgacac agtgctgctc tagacattta gtctgcaggg   3600
agcttttgat gttagaactg aggctgcaat ggtagggaat attcctgcag tttttggtaa   3660
cctggcatat agcctacatg taaagaaggg ttagtggaaa acaggttaa tatatggaac   3720
tttgctttat tttcaacttc actggaaagt actgactaca taagttagct atagcataat   3780
tgttggccac agctaatttt gtttatcaca tatgctcctt tcttcactgc cgacagctgt   3840
tgagtttcac tactaaaagg tcttcaagta cacacctgta ttctttggca cttgaaagtt   3900
gatcccttat gtgatattat acttattgta agtctgcttt gatctaaggt aattttattt   3960
aaaattatat tctgaaccct tttcaacagt tacggaggta tttcccaagg ctggtacatt   4020
agaatcactt gaaacttaaa aaacaaacac taacctgcct ctgttctgat ttagaggcct   4080
gggatggaag gaagggtgaa aaaagccaca agaatttag atatacaatt aaggtgtttt   4140
ttttgtttgt ttgttttttt gagatagagt cctctatctg actcccaggc tggagtgcaa   4200
tggcatgatc tctgctcact gcaacctcca cctcctgggt tcaagaaatt cttctgcctc   4260
agcctcccta gcagccagga ttacagacat gcactaccat ggctggctaa tttttgtgtt   4320
tttagtagag acggggtttc accatgttgg caaggctggt ctcgaactcc tcacctcaag   4380
tgatctgccc gcctcgggct cgggctccta aagtgctgga attacaggca tgagccaacg   4440
cacccggcca caattaagct taaaaaccac tgagttaagg agtttcaggt gtgtgccata   4500
ctggattata aatgcctaaa aacatacaag ttagtaggca aattataaaa ttaatattat   4560
aataatttat tgtttttcttt tttatggctt tcttattgct tattttactg ttagttttga   4620
aacttgttct tattgtaata tgatacttaa ttttttttcta ggttacattt agtaacactt   4680
tttgaaaatg atcgtcattt ctctcacctc tcatctttgg aatgggagat gactttttcgc   4740
actaaaatgg ttagatttct tcttctaacg aattaatttg tggtttaaga atagcgagac   4800
tatgaggtag aaatgtatta ggaattgaaa tgaacttttg gtgaattgca ctgtttcata   4860
agctataacc caggtttatt atttaaatag taaagtgttt gagattattt ttctttttact   4920
tcattatctc tcaccctttc ctaatgcaga cttctttta agataataaa gatgaattat   4980
aatagctgag gaaggaggac aaagaaagca ctgaagaagt gataaagggg aatgaaatga   5040
gatgttatca gaaattgctt tctctttggc tacagttagg agatcccatg tttttacctgg  5100
gccttttaat gatgacgatt attatttggc tctctttttga tttcaagata atctcttcta   5160
agagataact tttgatataa ttttttaaata attttctgtt tttcaatact taatctttaa   5220
aatggagttt tctgccgtac atatctcaca taattattgt gaggagtaag tgggatagca   5280
aatgccaaaa ttgcgcaatt ttacatttag aagacaccac aaccgtccat cttccagatc   5340
```

2695

```
tgctcacagc tggtcgggcg cctagtgaag cattgaaact ggctctcctc agtctagcca    5400
ttgctttttg tttaaattat ggtaaaactt agatttaaat ttgtaataaa aaatttcaat    5460
gtttatcctt taagcataca attcagtgag attaagtaca tttatgttgt cttgcaacta    5520
ttaccactgt ccacatccgg aactttttgc tatcccaaac agaaactcta cccactaaac    5580
actaatcaca cccagctcta ttttctgtct ctatgatttt gcctatgcca ggcccctcag    5640
tcactgcttt ttaatttca tccctatatt gccctataa agtttcaaag cattggatac    5700
attaacatat gtatgacatt tgaacatttt aaaggtattt ccaaagacag aatataaaat    5760
attattaaat aaagagcgta actgtggcag agtctggact ttggtgacag atcgctggat    5820
tctaatagca gttctgtgct ttattgtatg atggctagtc aggtcacctc tcagattctc    5880
agtaatctcg tctgctcaat agaaataatg ccaaccttag aggggtttag ggaaaatgaa    5940
gggagataat gaatggcaac acatagcaga atacttaaca caaaacaata gctgttatta    6000
gtaacttatt tatatattta atatttccct aaatatagtc ttttgcatat tagatatcct    6060
ttaattgttg tattgctttg ttatcctcct aagcagaaag gaaaattctt tatgaattca    6120
tattttgcca atcaactatg aggtaatggc ctttcagaca tcagctaaaa cagacctgta    6180
atttagtagt tactcgtgtt ggatgaggca gatatgatta tagcatatag cattttttag    6240
ggagaatgca ttttaaacaa tgtggccctt ttttgctttt agatttagg agtgaaagca    6300
agaaattgtt ggggaaataa gacacaacat gctgttgtta atccatgaat tttaactcaa    6360
cagcactttt actatcccaa tgaagccttt attttatatg ctgaagtata agacactaaa    6420
ataagctgct ttttagtaca tagcatttgt gagcaacaat agtcaattga cattgagctt    6480
tcactttgca cagaggatta gatggagcta tgaattaagc tagaagcact ggattccttg    6540
ctcgtgatgc ttatggtcat tatattttat ttcctaagag catgggaaaa aaagtaattt    6600
tctatatgca aagttgtaca gaggcatgaa ggcatccctg tttatgatag aattaatcag    6660
atatcaacct tcaagcatct caaatgtggg ggataaaacc agatttggga aaatcaaaca    6720
tatactgtct acacatttta agacattatt agagaaactc tttaaattgt ttgaccatcc    6780
ctccaactct ttagtttgaa agcctataga aaatttgaaa gaatagtaca gtgatcacct    6840
gaaaatacgt gttctttaaa gtccaagaat gcaaaatagc gaggagtgat taagaagtct    6900
tattattaac ttttttttc agaaaaaaag ttctaaagaa gtgataaaaa taaatatttt    6960
aaagttttaa ttccattgac aatatgtgcc tttttttttt ttaaaaaggg actttattat    7020
tcctacttca agaccatcat tgaagcacct tcatttttgg aaggactgtg gatgattatg    7080
aatgacaggc ttactgaata tcctcttgta attaatacag taaaacgctt ccatctttat    7140
ccagaggtga gtcataattt gagacaaata atatttgtag agtgatcctc tttgtcagat    7200
aaaaatagta agcacaatct tgttaagaaa gggaggggac gtttcaggtt tactaattgt    7260
atgtatcctt atagttgagt agagtatcat aagttcctct cttaaaattt aaagacccca    7320
gaaactgttc tctcatgaac tcaaagaatg aaacttagtg tgtaaataat ggccagggta    7380
atagacaagc caaatggaaa agagagtcat gggagccaaa aagttctaaa tagggatggg    7440
cttttggctt tggacacctc atgggtgagc acgatgacca cgtgaaggga cagtgagagt    7500
gatgagcttg aatagtgatc ttggagttac gttagtaaag taagatttat ttagtcacac    7560
agccagaaat ctattactat tttccaacac ttagcctaaa agagtatggt tgttatagta    7620
gtctataaat gctagaaatt tgaaaaacgg agacaaaatt agtgaactca gtttgtgaac    7680
tcaagataaa tgctaaattt gacaccatag taaatactac tgttgagttt aaagttgtct    7740
cagaatccag catattaatg aaaagttact gctttctagt cctttattca tattttata    7800
gcttttaaaa attattattc tttagatttt gaaatgctta aagctacaga cttagaaaat    7860
aatattcaaa tatgtgtgat caaccattta aaataaataa atgctaatct ttgtcatttt    7920
tgcatcagct atttttaaaat aattaaaata ttataaatac agttaaaatc acctttgttc    7980
tgctcctagt ccaacttata cctttattaa aatttggtgt gtgtatccat ccaatctctg    8040
ttttcagaga ttgtttattt atatgctttt aagtccacat aaatgatctc atactgaatg    8100
tgtcactgta ggatttttt cttcaaaatt gcatttttga actttctgta tatatatatt    8160
tctttaattt taaccgtttt atgaattgta aagtttatgt atttccccat cttaatatat    8220
tatttccaaa ttttgatta caagcaatgt aatctaaaat gtacatttt gtatggtttt    8280
cttctgtata tgtgcaatat tttgtctagg atatatacct agaaatggaa ttgttgttat    8340
acagtgtgtg ctttttcagc tttaccagat attggtaaat tgctgtctga agcaaatgtg    8400
gcagttcaca ctgctgtcta gaattttctc atatccttat tagattttga gttgtcagac    8460
cctgtgattt ttactcttat gatggctgtg atatgctttt ttgtttaat ttgtacctcc    8520
cttattattt atggggataa atatatttcc atgtttaata aacatttgga tttgttcttc    8580
tagcaacaac atatataaat ctttgtcacc aaatcagctt ttttgaggta tgacttacat    8640
gtaataaaat gtgccaattt tgagtgtacc attctctgag ttttgacaaa tgtatgaagc    8700
tatatatcca tgaccacaat tgagttacaa aacattttcg gaatgccaaa aaatgctcca    8760
ttgtggtaac tgtcttttcc cccattgaat taattgtctc ggtacaatcg ttgaaaattg    8820
gttgaccaca ttatatgtga atctgtttct ggactctgtt attctcttga tctataatta    8880
tgccaatacc acactgtctt gattactgta actttagaat aaatcttgaa agtagatagt    8940
t                                                                    8941
```

2696

<210> 5769
<211> 1486
<212> DNA
<213> Homo sapiens

<400> 5769
```
ggacacctcg tgggtgagca cgatgaccac gtgaagggac agtggagtga tgagcttgaa      60
tagtgatctt ggagttatgt tagtaaagta agatttattt agtcacacag ccagaaatct     120
attactattt tccaacactt agcctaaaag agtatggttg ttatagtagt ctataaatgc     180
tagaaatttg aaaaacggag acaaaattag tgaactcagt ttgtgaactc aagataaatg     240
cttaatttga caccatggta aatactactg ttgagtttaa agttgtctca gaatccagca     300
tattaatgaa aagttactgc tttctagtcc tttattcata tttttatagc ttttaaaaat     360
tattattctt tagattttga aatgcttaaa actacagact tagaaaataa tattcaaata     420
tgtgtgatca accatctaaa ataaataaat gctaaccttt gtcatttttg catcagctat     480
tttaaaataa ttaaatatt ataaatacag ttaaaatcac ctttgttctg ctcctagtcc      540
aacttatacc tttattaaaa tttggtgtgc gtatccatcc aatctctgtt ttcagagatt     600
gttttattat atgctttaag tccacataaa tgatctcata ctgaatgtgt cactgtagga     660
ttttttcttc aaaattgtat ttttgaactt tctgtatata tatatttctt taattttaac     720
cattttatga attgtaaagt ttatgtattt ccccatctta atatattatt tccagttttt     780
tgattacaag caatgtaatc taaaatgtac attttgtat ggttttcttc tgtatatgtg      840
caatattttg tctaggatat atacctagaa gtggaattgt tgttatagag tgtgtgcttt     900
ttcagcttta ccagatattg gtaaattgct gtctgaagca aatgtagcag ttcacactgc     960
tgtctagaat tttctcatat ccttattaga ttttgaattg tcagaccctg cgatttttac    1020
tcttatgatg gctgtgatat gcttttttgtt ttaatttgta cttcctttat tatttatggg    1080
gataaatata tttccatgtt taataagcat ttggatttgt tcttctgtca acaacatata    1140
taaatctttg tcaccaaatc agcttttttg aggtatgact tacatgtaat aaaatgtgcc    1200
aattttgatt gtaccattct ctgagttttg acaaatgtat gaaactatat atccatcacc    1260
acaattgagt tacaaaacat tttcagaatg ccaaaaaatg ctccattgtg gtaactgtct    1320
tttcccccat tgaattaatt gtcttggtac aatcgttgaa aattggttga ccacattata    1380
tgtgaatgtg tttctggatt ctattattct cttgatctat aattatgcca ataccacact    1440
gtcttgatta ctgtaacttt agaataaatc ttgaaagtag atagtt                   1486
```

<210> 5770
<211> 3290
<212> DNA
<213> Homo sapiens

<400> 5770
```
acttttttgaa aatgatcgtc atttctctca cctctcatct ttggaacggg agatgactta      60
gatgacttct cccactgaaa tggttagatt tcttcttcta acgaattaat ctgtggttta     120
agaatagtga gactatgagg tagaaatgta ttaggaattg aaaccagctt ttggtgaact     180
gcactgtttc gtaagctata acccaggttt attatttaaa tagtaaagtg tttgagatta     240
ttttctgtt acttatttca ttgtctctca cccttttccta atgcagactt cttttttaaga     300
taataaagat gaattataat agctgaggaa ggaggacaaa gaaagcactg aagaagtgat     360
aaagggggaat gaaataagat gttatcagaa attgctttt ctttggctac agttgggaga     420
tcccatgttt tactgggtct tttactgatg atgattatta tttggctctc ttttgatttc     480
aagataatct ctttttaagag ataactttg atataatttt aaataattt tctgttttttc     540
gatacttaat ctttaaaatg gagttctctg ccgtacacat ctcacataat tattgtgggg     600
agtaagtggg atagcaaatg ccaaaattgc agttttacat ttagaagaca ccacaaccgt     660
ccatcttcca gatctgctcg cagctggtcg ggggcctagt gaagcactga aactgactct     720
cctcactcta accattgctt tttgtttaaa ttatggtaaa atttagattt aaatttctaa     780
taaaaaattt caatacgttt atcatttaag catacaattt agtgacatta agtacattcg     840
tgttgtcttg caactattac cactgtccac atccagaact ttttttgcta tcccaaacgg     900
aaactccacc cactaaacac taatcacacc cagctctatt ttctgtctct atgatttttgc     960
ctatgccagg cccctcagtc actgctttt aattttcatc cctatattgc ccctataaag    1020
tttcaaagca ttggatacat taacatatgt atgacatctg aacattttaa aggtatttcc    1080
aaagacagaa tataaaatag tattaaataa agagtgtaac tgtggcagag tctggacttt    1140
ggtgacagac tgctggattc taatagcagt tctgtgcttt attgtatcat ggctagtcag    1200
```

2697

```
gtcacctctc agattctcag taatctcatc tgctcaatag aaataatgcc aaccttagag    1260
aggtttaggg aaaatgaagg gagataatga atggcaacac atagcaggat acttaacaca    1320
aaacaatagc tgttattagt aacttattta tatatttaat atttccttac atatagactt    1380
ttgcatatta gatatccttt aattattgta ttgctttgtt atcctcctaa gcagaaagga    1440
aaattctttta tgaactcata ttttgccaat caactatgag gtaatggcct ttccgacacc    1500
agctaaaaca aacctttaat ttagtagtta ctcgtgttgg atgaggcaga tatgattata    1560
gcatatagca ttttttaggg agagtgcatt ttaaacaatg tggccctttt ttgcttttag    1620
attttaggag tgaaaacaag aaattgatgg gaaaataaga cacaacatgc tgttgttaat    1680
ccacgaattt tttttttaat tatactttta agttctaggg tgcatatgca caacacgcag    1740
gtttgttaca tatgtataca tgtgccatgt tggtgtgctg catccattaa ctcatcattt    1800
acattaggta tatctcctaa tgctatccct cccccctccc cccaccccat gacaggcccc    1860
ggtgtgtgat gttccccttc ctgtgtccaa gtgttctcat tgttcaattc ccacatatga    1920
gtgagaacat gcggtgtttg gttttctgtc cttgcgatag tttactgaga atgatggttt    1980
ccagcttcct ccatgtcctt acaaaggaca tgaactcatc cttttttatg gctgcatagt    2040
attccatggt gtatatgtgc cacattttct caatccagtc tatcattgat ggacatatgg    2100
gttggttcca agtctttgct actgtgacta gtgacgcaat aaacatacgt gtacatgtgt    2160
ctttatagca gcatgattta taatcctttg ggtatatacc cagtaatggg atggctgggt    2220
caaatggtat ttctagttct agatccttga gattaatcca tgaatttaa ctcaacagca    2280
tttctactat cctaatgaag acttttttt atatgctgaa gtgtaagaca ctaaaataat    2340
ctgctttta gtacatagca tttgtaagca acaatagtca atcgacattg agctttcact    2400
ttgtacagag gattagatgg agctatgaag taagctagaa gcattggatt ccttgcccat    2460
gatgcttatg gtcattatat tttatttcct aagagcatgg gaaaaaagt aattttctat    2520
atgcaaagtt gtacagaggc atgaaggcat ccctgtttat gacagaatta atcagaggtc    2580
aaccttcaag catctcaaat gtgggggata aaacccagat ttgataaaat taaacatgta    2640
ctgtctacac actttaagac aatattagat aaactcttta aattgttgga ccatacctcc    2700
aactctttag tttgaaaacc tatagacaat ttgaaagaat agtacggtga tcacctgaaa    2760
atacgtgctt tttaaagtcc aagaatgcaa aatagcaagg agtaattagg aagtcttatt    2820
attgaccttt ttttttcag aaaaaaaatg tactaaagaa ttgataaaaa taaatatttt    2880
aaagttttaa ttacattgac aatatgtgcc tttaaaaaaa aaagggactt tattattcct    2940
acttcaagaa caatattgaa gcatcttcat ttttggaagg actgtggatg attatgaatg    3000
acaggcttac tgaatatcct cttgtaatta atacagtaaa acgcttccat ctttatccag    3060
aggtgagtca taatttgaga caaataatat ttgtagagtg atccttttta tcagatataa    3120
atagtaagca caatcttgtt aaaaagaaag ggaggggacc tttcaggttt attaattgtg    3180
tgtatcctta taggtgagca gaatatcata agttcttctc ttaaaattta aagaccccag    3240
aaactgttct cgcatgaact caaagaatga accttagtgt gtaaataatg               3290
```

<210> 5771
<211> 818
<212> DNA
<213> Homo sapiens

<400> 5771
```
tttttgttg ctcttgtata gaaatatagt tgattttgaa tattaactt gtacctgcat      60
cttgatgcag tcagtggttc tagtagcttg tttgtagaat cctttggatt tttctatgca    120
cgtgatgata gagtctataa ttaaaaagtt ttactttcca gtagatatac cctaaatgtt    180
tttaaacagc tttattgagg tataattgac atatgatagc tggtcatata gatgaagtgt    240
aaagtttgat tagttttggc ccacctgtaa aaccatcacc agtcaagata atgagcatat    300
ccctcatccc gaagtttccc tgtcctcctt ggtaatccct ccttccttcg tctctctttg    360
cccacatccc atccctagga aaccactaat attctctgtc attatggttt agtttgcatt    420
ttctagaatt ttatagaaat agaaacagag ttgttctgtg cctaggtctt aatttatgcg    480
gttgactgag tgatgacaca gatcagtgcc actgaaagaa gaatttatga ctaatacttc    540
cttggagaag aggacaagtc acatcacaca gagccacagg agagatacag tttggtcagg    600
cagaagcagg actgagggta aagcctaggc catcgctttt attggggttt ctatgggaaa    660
gggaaaacca ggcagagttt aaaaagaaa ataaataaac aaaatcgaaa gacagttgat    720
acactgggag aagatatttg tttggtttct ttttgtttgt ttattttgag acagagtctc    780
acttcattgc ccaggctgaa gtgcagtggc gtgatctc                           818
```

<210> 5772
<211> 679
```

<212> DNA
<213> Homo sapiens

<400> 5772

```
ttttttgttg cttttgaata gaaatatagt tgattttgaa tattaacttt gtacctgcat      60
ctcgatgaag tcagtggttc tagtagcttt tttgtagaat cctttggatt tttctatgca     120
cgtgatgata tattctgtaa ttaaaagcag ttttactttc cagtagatat accctaaatg     180
ttttaaaca gctttattga ggtataattg acatatgata gctggtcata tagatgaagt     240
gtaaagtttg attagttttg gcccacctgt aacaccatca ccagtcaaga caatgagcat     300
atccctcatc ccaaagtttc cctgtgctcc ttggtaatcc ctccttcctt catctctctt     360
tgcccacatc ccatccctag gaaaccacta atattctttt tgtcattatg gtttagtttg     420
cattttctag aattttatag aaatagaaac agagttgttc tgtgcctagg tcttaatgta     480
tgcagttgac tgagtgatga cacagataga tcagtccgc taaagaagaa tttatgagta     540
ataatttctt ggagaagagg acaagtcaca tcacacagag ccacaggaga aagacagttt     600
ggtcaggcag aagcaggact gagggtaaag cctagaccat cactttttatt ggggtttcta     660
tgggaaaggc aaaaccggg                                                  679
```

<210> 5773
<211> 679
<212> DNA
<213> Homo sapiens

<400> 5773

```
ttttttgttg cttttgaata gaaatatagt tgattttgaa tattaacttt gtacctgcat      60
ctcgatgaag tcagtggttc tagtagcttt tttgtagaat cctttggatt tttctatgca     120
cgtgatgata tattctgtaa ttaaaagcag ttttactttc cagtagatat accctaaatg     180
ttttaaaca gctttattga ggtataattg acatatgata gctggtcata tagatgaagt     240
gtaaagtttg attagttttg gcccacctgt aacaccatca ccagtcaaga caatgagcat     300
atccctcatc ccaaagtttc cctgtgctcc ttggtaatcc ctccttcctt catctctctt     360
tgcccacatc ccatccctag gaaaccacta atattctttt tgtcattatg gtttagtttg     420
cattttctag aattttatag aaatagaaac agagttgttc tgtgcctagg tcttaatgta     480
tgcagttgac tgagtgatga cacagataga tcagtccgc taaagaagaa tttatgagta     540
ataatttctt ggagaagagg acaagtcaca tcacacagag ccacaggaga aagacagttt     600
ggtcaggcag aagcaggact gagggtaaag cctagaccat cactttttatt ggggtttcta     660
tgggaaaggc aaaaccggg                                                  679
```

<210> 5774
<211> 6217
<212> DNA
<213> Homo sapiens

<400> 5774

```
ttttctttat tccagccgtc tttgtggcaa ttctacattg gtaagatgta gtttcagttt      60
gaaatattta aaaacatttg aattaaaaat tgccatcact ctttgcatac agtaaaacaa     120
taacttctgg ctatatttgt agaacatctt tatgtgcacc aatttataca tgtatttttgc     180
ttttttacaa acctcatatg tgaaacagca tttacaaaat agatgcatta ggggaatagt     240
aacttatgaa ttaaaatatt tttgctttac caaataattc accacacgtt tcttttaaata     300
tctagctttt ctagtgtgtt ttgcatgtgt agttcattta aaaccttcct ttactttatg     360
gtaattatat gttgctagtg aaataacttt tttttttttt tgagacagag tcttgctctg     420
tctcccaggc tggagtgcag tggtgtgatc ttgactcact gcaacctctg cctcccaggc     480
acaagtgatc cttgtgcctc agccttccaa gtagctggga ttacaggtgt gcaccaccag     540
acccagccaa tttgttgtat ttttggtgga gacaaggttt caccatgttg gccaggctgg     600
tgtcaaactc ctggcctcaa atgatccacc tgcctcggcc tcccaaagtg ttgggattac     660
aggcatgagc caccacactc agccagtgaa ataactttgg tgataaagtt ttagtaacac     720
ctgccaattg gaaatcaggt aaaaagaag gtaaagattc tgcagtggtt atatggttaa     780
atggctctga gtctttcagt gtgcaagcct gtgtacatta ttttacaaaa gtgtttataa     840
aaatttgtaa aataatattt ccttctgaaa tattttatttt ttacctgtgc tcagtgattt     900
ctacccttgg gaggtatgag atctgcccct atgttctatt gacacagtgc tgctctagac     960
atttagtctg cagggagatt ttgatgttag aactgaggct gcaatggtag ggaatattcc    1020
```

```
tgcagttttt ggtaccctgg catatggcct acatgtaaag aagggttagt ggaaaacagg    1080
gttaatatat ggaactttgc tttattttca acttcactgg aaagtactga ctacataagt    1140
tagctatagc ataattgttg gccatagcta attttgttta tcacatatgc tcttttcttc    1200
actgcctata gctgttgagt ttcactacta aaaggtcttc aagtacacac ctgtattctt    1260
tggcacttga aagttgatct tttatgtgat attatactta ttgtaagtct gctttgatct    1320
aaagtaattt tatttaaaat tatattctga accctcttca acagttatgg aggtatttcc    1380
caaggctggt acattagaat cacttgaaac ttaaaaaaca aacactaacc tgcctctgtt    1440
ctgatttaga ggcctgggat ggaaggaagg gtgaaaaaag ccacaagaat tttagatata    1500
caattaaggt ttttttttgt ttttgttttt ttgagacaga gtctctatct gtcacccagg    1560
ctggagtgca gtggcatgat ctctgctcac tgcaacctcc acctgctgga ttcaagaaat    1620
tctcctgcct cagcctccct agcagcgagg attacagaca tgcactacta tggctggcta    1680
attttgtgt ttttagtaga gacggggttt caccatgttg gcaaggctgg tctcgaactc    1740
ctcacctcaa gtgatctgcc cgcctcgggc tcccaaagtg ctgggattac aggcatgagc    1800
caacgtaccc ggccacaatt aagcttaaaa accactgagt taaggaattt caggtgtgtg    1860
ccatactgga ttataaatgc cgaaaaacat acaagttagt aagcaaatta taaaattaat    1920
attataacaa tttattgttt tctttttat ggctttctta ttgtttattt tactgttagt    1980
tttgaaactt gttcttattt taatatgatt cttcattttt ttctaggtta catttagtaa    2040
cactttttga aaatgatcat catttctctc acctctcatc tttggaacgg gagatgactt    2100
tttgcattga aacggttagg tttcttcttc taacgaatta atttgtggtt taagaatagc    2160
cagaccgaga ggtgacagca tgctggcagt cctcagagcc cttgcttgct ctcggcacct    2220
cccctgcctg ggctcccgct ttggtggcat ttgaggagcc cttcagtccc ccactgcact    2280
gtgggagccc ctttctgggc tggccaaggc cggagcccac tccctcagct tgcagggagg    2340
tgtggaggga gagacacgag cgggaaccgg ggctgtgtgc tgcacttgcg ggccatctgg    2400
agttccgggt gggcgtgggc ttggtgggcc ccgcactcag agcagccagc cagccctgct    2460
ggccccgggc aatggggggac ttagcacctg ggccagtggc tgcggagggt gtactgagtc    2520
ccccagcagt gctggcccac cggcgctgcg ctcgatttct cgctgggcct tggctgcctt    2580
cccacggggc agggctcggg acctgcagcc cgccatgcct gagcctccta cccaatccat    2640
gggctcctgt gcggcctgag cctccccgac gagcaccacc ccctgctcca cggcgcccag    2700
tcccatcgac cacgcaaggg ctgaggaatg cgagcgcccg gcacaggact ggcaggcagc    2760
tccacctgca gccccagtgc aggatccact aggtgaagcc agctgggctc ctgagtctgg    2820
tggggacgtg gagagtcttt atatctagct cagggattgt aaatacacca atcagcaccc    2880
tgtgtttagc tcaaggtttg tgagtgcacc agtcaacact ctgtatctag ctgctctggt    2940
gagggcgtgg agagtcttta tgtctagctc aaggattgta aatacaccaa tcagcactct    3000
gtgtctagct caaggattgt aaatacacca atcggcactc tgtatctagc tcaaggtttg    3060
taaacacacc aatcagcacc ctgtgtttag ctcaaggttt gtgagtgcac cagtcgacac    3120
tctgtatcta gctgccctga tggggacgtg gagaaccttt gtatctagct cagggattgt    3180
aaacgcacca atcagcgccc tgacgaaaca ggccactcgg ctctaccaat cagcaggatg    3240
taggtggggc cagataagag aataaaagcg ggctgcccga gccagcattg gcaacccgct    3300
cgggtcccct tccacactgt ggaagctttg ttctttcgct ctttgcaata aatcttgcta    3360
ctgctcactc tttgggtcca cgctgctttt gtgagctgta acactcacca tgaagatctg    3420
cagcttcact cctgagccca gcgagaccac gagcccaccg ggaggaacga acaactccag    3480
acacgccacc ttaagagctg taacactcac cgcgagggtc caccgcttca ttcttgaagt    3540
cagtgagacc aagaacccac caattccgga cacaagacta tgaggtagaa atgtattagg    3600
aattgaaatg aactttggc gaactgcact gtttcataag ctattaccca ggtttattat    3660
ttaaatagta aagtgtttga gattatttt ctgttacttc attatctctc acccttcct    3720
aatgcagact tcttttaag gtaataaaga tgaattataa tagctgagga aggaggacaa    3780
agaaagcact gaagaagtga taaagggggaa tgaaatgaga tgttatcaga aattgctttc    3840
tctttggcta cggttaggag atcccatgtt ttacctgggc cttttaatga tgacgattat    3900
tatttggctc tcttttgatt tcaagataat ctcttttaag agataacttt tgatatagtt    3960
tttaaataat tttctgtttt tcaatactta atcttaaaaa tggagttttc tgccgtacgt    4020
atctcacata attattgtga ggagtaagtg ggatagcaaa tgccaaaatt gcgcaatttt    4080
acatttagaa gacagcacaa ccgtccatct tccagatctg ctcacagctg gtcgggggcc    4140
tagtgaagca ttgaaactgg ctctcctcag tctagccatt gctttttgtt taaattatag    4200
taaaatttag atttaaattt gtaataaaaa atttcaatgt ttatcatttta agtgtacaat    4260
tcagtgacat taagtacatt catgttgtct tgcaactatt aaccactgtc cacatccaga    4320
acattttgct atcccaaaca gaaactctac ccactaaaca ctaatcacac ccagctctat    4380
tttctgtctc tgtgattttg cctatgccag gtccctcagt cactgctttt taatttttcat    4440
ccctatattg ccccataaag tttcaaagca ttggatacat taacatatgt atgacatttg    4500
aacattttaa aggtatttcc aaagacagaa tataaaatat tattaaataa agagtgtaac    4560
tgtggcagag tctggacttt ggtgacagat cgctggattc taatagcggt tctatgcttt    4620
attgtatgat ggctagtcag gtcacctctc agattctcag taatctcgtc tgctcaatag    4680
```

2700

```
aaataatgcc aatcttagag gggtttaggg aaaatgaagg gagataatga atggcagcac   4740
atagcagaat acttaaaaca atagctgtta ttagtaactt atttatatat ttaatatttc   4800
cctaaatata gtcttttgca tattagatat cctttaattg ttgtattgct ttgttatcct   4860
cctaagcaga aaggaaaatt ctttatgaat tcatattttg ccaatcaact atgagataat   4920
ggcctttcag acatcagcta aaacagacct gtaatttagt agttactcgt gttggattag   4980
gcagatatga ttatagcata aagcattttt tagggagaat gcattttaaa caatgtggcc   5040
ctttttttgct tttagatttt aggagcgaaa gcaagaaatt gttggggaaa taagacacaa   5100
catgctgttg ttaatccatg aattttaact caacagcact tttactatcc taatgaagcc   5160
tttatttttat atgctgaagt gtaagacact aaaataatct gcttttagt acatagcatt   5220
tgtgagcaac aataatcaat tgacattgag cttcacttt gcacagagga ttagatggag   5280
ctatgaatta agctagaagc actggattcc ttgctcatga tgcttatggt cattatattt   5340
tatttcctga gagcatggga aaaaaagtaa ttttctatat gcaaagttgt acagaggcat   5400
gaaggcatcc ctgtttatga tagaattaat cagatgtcaa ccttcaagca tctcaaatgt   5460
gggggataaa accagatgtg ggaaaatcaa acatatactg tctacacatt ttaagacatt   5520
attagagaaa ctctttaaat tgtttgacca tccctctaac tctttagttt gaaagcctat   5580
agaaaatttg aaagaatagt acagtgatca cctgaaaata cgtgttcttt aaagtccaag   5640
aatgcaaaat agcaaggagt gattaggaag ttgtcttatt aacctttctt ttttcagaaa   5700
aaaagttcta aagaagtgat aaaaataaat attttaaagt tttaattaca ttgacaatat   5760
gtgccttttt ttttttttaaa aaagggactt tattattctt acttcaagac cattattgaa   5820
gcaccttcat ttttgggagg actgtggatg attatgaatg acaggcttac tgaatatcct   5880
cttgtaatta atgcagtaaa acgcttccat atttatccag aggtgagtca taatttgaga   5940
caaataatat ttgtagagtg atcctctttg tcagataaaa atagtaagca caatcttgtt   6000
aagaaaggga ggggacgttt caggtttatt aattgtatgt atccttatag ttgagtagaa   6060
tatcataagt tcctcttaaa atttaaagac cccagaaaca gttctctcat gaactcgaag   6120
aatgaacctt agtgtgtaaa taatggccag ggtaatagac aagccaaatg gaaaagaggg   6180
tcatgggagc caaaaagttc taaatagga tgggctt                             6217
```

```
<210> 5775
<211> 674
<212> DNA
<213> Homo sapiens

<400> 5775
tttttttgttg cttttgaata gaaatatagt tgattttcaa tattaacttt gtacctgcat    60
ctcgatgaag tcagtggttc tagtagcttt tttgtagaat cctttggatt tttctatgca   120
catgatgata cagtctgtaa ttaaaagcag ttttactttc cagtagatat accctaaatg   180
ttttttaaaca gctttattga ggtataattg acatatgata gctggtcata tagatgaagt   240
gtaaagtttg attagttttg gcccacctgt aaaaccatca ccagtcaaga caatgagcat   300
atccctccat cccgaacttt ccctgtgctc cttggtaatc cctccttctt tcgtctctct   360
ttgcccacat cccatcccta ggaaccact aatattcttt ttgtcattat ggtttagttt   420
gcattttcta gaattttata gaaatagaat tgttctgtgc ctaggtctta atatatgtgg   480
ttgactgagc gatgacacag atagatcagt accgctaaag aagaatttat gagtaatact   540
gccttggaga agaggacaag tcacatcaca cagagccaca ggagagagac agtttggtca   600
ggcagaagca gtattgaggg taaagcctag gccatcgctt ttattggggt ttctatggga   660
aaggcaaaac aagg                                                      674
```

```
<210> 5776
<211> 838
<212> DNA
<213> Homo sapiens

<400> 5776
gtaagtgcta ggcagagtga cctttcatct gatgctaagc ccctacaagt ttgagaaggt    60
aagaaaagat gaaggagaca tatattaggt cagctcttac ttttgaaaat gttttatttg   120
aagaaacacc tgtagcattg aggtgactga atgcctccac ttatttcagg aaaacgtatc   180
caaaaaaagt tgaaatattt ggacaacttt tttttttaagt gccatcgatt tccctagcag   240
cattctaaaa gatagcaagt aaaatgatgt ttgttatcct aaatgcttta gttttaggtc   300
atttattaat tttcttacag gtgcactttc tagtacatga agtatccttt gtaattaatg   360
tgtgccatat gtttattccc atttagtata actataaatt atattttaaa ttatatattt   420
```

```
ttaggatagt tatatttttt ttgggttcta cgacattgaa gttggactag tgatttattt      480
gaatgctgaa tcctagtata ggggaatata atcttatatt ttaacagggg tcctctatgg      540
gaaaatagga tgaactttgt ttcccagaaa ttgttaagtg atgaaaaact tcaaaataat      600
tttcctgcat tttctgcttt atttacatgt aaagtgaatt ccctgaaaat tggatttaaa      660
aagcattctc .cttcaatgtg cctttacctt gtagctttaa caacttttct gttaaatatg      720
tagtttttta ttaaacaatg ttattaaata aaaacattta tccactgatt ttattactgt      780
tccaatgtaa cacattttct acttcatcac tcttctgtta ccactcttaa atgtctta       838


<210> 5777
<211> 2454
<212> DNA
<213> Homo sapiens

<400> 5777
tatacaaact catatacata cttaaattgg tacggtggtg tatgtgtgcg tgcgtgtgtg       60
tgtgtatgtg ttgtagtcct caagatgaag ttaaatatag actttaatta ccctgcaatg      120
aatttaaaac acattctgta tgcttaaact ttgagtgcgt tggctgtgaa atgtatacat      180
atataaagag gatacctact aaacccacct taatcataaa ggaaaattat tttttgttag      240
aattgcttat taaataggca tactttatac tgtggtttat aatttcaaat ataacttggg      300
gttatggtcc tattcactaa gagaatgaaa gatatccatg agttaaaaga acaaaactaa      360
aaatttcaga tctaacaatt gaaagaaaat tgaggcagta aatgacctct tttactcttt      420
tatgttttac aatattatca tgttatttac agttaatgct gaaataattc tcaagtgcag      480
gaatataaat gttaagtggt tttatgattc caagctgata tatttcacct gttaaaaatt      540
atgctgctaa attagcatta gaggccttat gtttggtaat tacaagtgtc tgggctattg      600
gcgcgtctct atatatgtgt gtgctttgtt ccagtttctt caaattatct atgtataatt      660
gtatgaaata tttaaatagc aaagaagtca aagaagattg ttaaatattc aacaagaatc      720
ataaatacct ttatatgtat tttaaaagta ttgggctgtt ctgaacatga ttatgctggt      780
ctgtctgtct tttagcctga ctccttcact cttgtgtgtg aagtctatta gcaactttca      840
ataagctaag caatgttgta acttgcaaaa aagcctccac tctgagaaac agggccttat      900
agagtaggaa tgttttcata ctgggactac tgaaattttg cagatgtgtg catctgttcc      960
atttaaggtg cccttaaatg tgttgaatgt aatgtgttga atgtttatgt gtaatggcta     1020
aagtatctat atgtatgtgc ataaaactgt cacaagatgt attctcagga atactgttac     1080
ctggagtttg aaaggaataa ctattaaaaa aaaaagttgg ggaagattag aaaaaagctc     1140
aagataaatg ttcaaaatat tattaagtac atgactaaaa gctaattact acatatgata     1200
aatgcagtgt tggtaatagt agatcatttc ttaagccatg atacttaatg atatttatct     1260
tattcagagg aaaaacaaaa aaggtaccca cttccatgt agaaaaaatt agactcagca     1320
aagaggttgc ttcttctgaa attagctttt gagagacctt ggaataaacc atgtgttatc     1380
catgatagta tgactcagat ccaattaaaa cagtttaaat tctggatata ggatctccta     1440
tagcaaaaca ttttactttc atttttcagt atttgctgct ttctagaatt ctattagata     1500
agctatgtca tttttctgaa aaagaaactg agttattgag tgtattaaga caaggcactg     1560
agaactacag tgtcaaaatc aaagggcata aatgggcatg gcagtgctgg tggaaaaatc     1620
tgtggtactg gtgatctggt tagggcctgt tgcacaggct gggagtaact ggtttgctgt     1680
ttcaagcctc caagagtacc ttaaacaagg tgatagctcc tctcttcttt agcattatat     1740
tcctttagtc aacaaagaac tttctccact ctgctgccca gctctgagag tatctgagat     1800
gagaatagga tgtgtgtgga ggggctttta gggaagaaag ggtcataaat gaatagaagt     1860
acagtctgaa acatgaatta aatatccttc ctcaagttat aaaggatact ttaatagaac     1920
acagtctcca gaattcgctg ctatcacacc aagtcatgct gttgccctgt gacctcacac     1980
ttcccattcc atggccttgt cttggcaggg agtaaaaaat cccacttctt tttactttag     2040
tgggtctcaa ctgcagcatt tcagaaacaa attttgattt gacactcagg agaataaaaa     2100
caagttgagg gcagaatgta tttggaaaag cttaagacaa atttactgat attattttat     2160
gatcatttag gattacagat caatttacct ccataaatct ttgaattgtc actgtgacca     2220
caggatgaaa atcctttatt agccatttta taggttaaaa caaaaaattg actacacagc     2280
cgacttccct cagataacta tgaagtctat tatgagtact gaatgaccaa agaacatgga     2340
aaaaatgcat atgaataaat actgaaatgt ttatgaaaga tatttatgaa agatattaag     2400
acttctgtgt ttaggtatgc acatatgata aaataaatct aaaaacatta aaga          2454


<210> 5778
<211> 779
<212> DNA
```

2702

<210> Homo sapiens

<400> 5778
```
caaaatagca ctttacttct aatgggtggc acaaatctga ataggttttg ctgccaatac      60
acatgatgtt tcataaacat cttaaaagtc aatggctaaa aggatttagt tgtgtgaaaa     120
tcacaaaacc agggaggaat aaggggaaag agccatttca ctgcacattg tttatgattc     180
aagaagcctt cagcagttaa aaatatatac tattcattgc tgctttcata gaaatattaa     240
caaatgatat gatctaaaaa tagaatgcaa ttttttgaga ttactcacat tatacatctc     300
atgcaaatat ttatttttat agtttaaaaa atatcaattc aggttggcta tacaagtagc     360
aatttacata aaaaaataat taataggaaa aatattactt tggggagact aaataacaag     420
cctgcagcca ttttttgtttt gagtaacaat acagccattt agaagaagaa aaaaatacta     480
tatagagagc tgtggacttt tagatattta tttttcaact atcattttca ttgcatgttg     540
taaatcaaaa tgcagatggc ataagatcat cccatttcat aatctatcac attagaatat     600
tacagaatat tctagaaatc atcagaaata attctgaatt aagaacctaa acagcctata     660
caattataaa aactaaatgt atatataatc acttaaaaga gatggtattc ctattcctag     720
ccctgactac atcaatacca agattagaag ctattggaaa atgtgattag taatactttt     779
```

<210> 5779
<211> 3861
<212> DNA
<213> Homo sapiens

<400> 5779
```
cagcagctca tcccagctcc agtcgtggac tgtccagccc tcctttgaag tgatctcagc      60
acagccacag ctcttattcc ttcatccacc tgtaccatct cctgtcagtc catgtcacac     120
tggtgagaaa aagtccgact ccaggaacta cttgcccatt ctgaattctt acaccaaaat     180
agccccacat ccaggcaaaa ggggcctttc ccttggccca gaagaaaaag gaacaagtgg     240
agtgcagaag aaaatctgta ctgagagact tgggcctagc ttgtcttcca gtgagccaac     300
caaggctggt gctgtcccat ccagtccctc gacgccagca ccacccagcg ccaaacttgc     360
cgaggactca gctctgcagg gtgtgccctc tctggtggca ggtggaagtc cacagactct     420
tcagccggta tccagcagtc acgtggctaa agctcccagt ctgaccttcg cttcccccgc     480
cagtcctgtc tgcgcatcag acagcactct ccatgggtta gagagcaact ctcccctttc     540
accactgtcc gctaattata gctcaccttt atgggctgca gagcacctct gccgcagccc     600
agatatcttt tcagagcagc ggcagagcaa acataggcgc tttcagaata ccctagtagt     660
cctacataaa tctggttttgc tggagatcac tttgaaaacc aaggagttga ttcgtcagaa     720
tcaggcaact caggtagaac tagaccagct aaaggagcaa acccagctgt ttatagaagc     780
caccaagagc agggcccctc aggcttgggc caagctgcag gcatctttaa cacctgggtc     840
cagtaataca ggcagtgacc tagaagcatt ctctgatcac ccagccatat agcacagagg     900
catatttttcc tgttacttga gtggttcttt tagctcattt gctgttacct actcctgttt     960
cccaaagctt atgtaagagc ttttccttct aaacttaaac tgtgttgtgg ttcacttagg    1020
aagccacgtg ccaataccatg gctgctgtct taactcgtag tctgggcaca ggatacatat    1080
gtccccgtcc cactgaggac ctcagtttgg gagtgccctt gagccccttt tccttagcct    1140
gcaggtgctt caatggatca tggggcaaag caggagatga ttgtgtgggg ctcttcctgc    1200
tgtcacctcc catcatccca ctctctcacc aggatcaagg gtacagtaac acgaatgagc    1260
atacagagca acacctgttg agccagggag taggtgacac aaggaaacct tcatggatct    1320
tcccttgcct gtcttagtca cagagagaaa taagaggagg ttgtttgcat cccacaaggc    1380
atcgtactag ttgggcgaga cctaaaattc cctgggcaca ggttgcacct gggtgtgagc    1440
acttaatcac tcaacgcttt gttttcttac acttgaaaat caagggaaag agtagtacca    1500
tctgactcct acactttcat tacaagtcag attttttctta aactagcagg caaaaacagt    1560
acttccaaat tttaaggtat ggaatgaatg cagtacatct ggaattgtag tcgatgaatt    1620
gctttttttga cttagaagct gaagaaaata gacatagccg gcatatctca tggtcaggag    1680
ctggacgatt ctggtaactt aggctttttt tctctcttct tttgaaacag tgtaacctgt    1740
tttatgtcta aaaatcttaa ggatagtttc agtggttcct gggatgtagt ataagttaac    1800
tctgctgcca tcttgttttt tttttttttc ctttattttg ataagtgatt attatgcttg    1860
ataaactttg aattaaatac agttgtcttg agggtatgat aagtccacaa aaaattggaa    1920
agcatcttac ccatttttctt cacatcccaa atttttattt gttccatgtc atagtgatgg    1980
gaagcagtta cagagcagcg tcttctgtgt ttccttcatg tgttagatat tggcaacaaa    2040
gccagaggtg taatgttggt tatatgaagt tcatctcaaa atggagacca tgaccagagt    2100
ttccagatga tacacgttct tttcagcttc attaaatagg caactatgtt tctaaatagt    2160
aaagtttcaa aatattctctc caatttaaaa tttcatcctc ttgaaaatct ttgttctttta    2220
```

2703

```
caaaattatc ttaataagtt ctatatggtc agcttcatct tccttttttt ttttttgag    2280
atggagtttc gctcttgttg cccaggcgga gtacaatggt gggatctcgg ctcactgcaa   2340
cctccgcctc ctgggttcaa gtgattctcc tgccacagcc tcccaagtag ctgggattac   2400
aggtgcctgc caccatgccc agctaatttt tgtattttta gtagaaatgg ggttttaccg   2460
tgttggccag gctggtctcg aactcctgac ctcagttgat ccgcctgcct cagcctccca   2520
aagtgctggg cttacaggcc tgagccacca cgctcagctc agcttcaccc tgtctgcaaa   2580
gaaaagtttt accaagacca gaagttaaat atgacatttc ctaggtagtt gtaactctaa   2640
catagtttaa aaagtatgtg gcttcagatt gcctatactt tgttcacaaa cgtgtgattt   2700
agatatgact gatgtagaag tgaacaactt ggtaacatcc ctagactcca ctcatgaacg   2760
cagaattatt acctgctgtt tgctttctga aagaatttca gaaatcagag caaatgtgtc   2820
tttaggcaga ttcagctcct tttaatattt ttctcttggc ccactctctt tgcttcccct   2880
gaatctgtgt ggtactatag cagctctact ctgtgcacca tgctaggaag cttccttttt   2940
ggcagaatat gtttggcagc aaagctatag agacaggtgc attcagaaca tcctgggcac   3000
cagtcatgag tcttactgtg tcaaaaatct gaaaacactt gctgagaacc aaatttattc   3060
cattggaaaa accctctgtg gagctataag cctcttggac tcttcttcct agattaaggc   3120
ttgcatttcc ctccctgttt cagtaaaaga tgatgaaagc cactatcaat cctcactgct   3180
gagtggcagg gagaagcagc accactctca gctcttttct aatcttgtaa cttagtgcta   3240
gaagtctctc caggctatta ccatgggcat ttgttctctg ttggagctgt aagcagatga   3300
acccaagtag agaagataga tcttggaagg agagatccat tgagtccaga agccagatca   3360
gcaaatggag gaacctcgga ggtgaccaga aagatctcca tcggttgccc aaggctgtaa   3420
gtagtgatgg ttttagcgat gaataacgta attggctatg aagtactgtg gcagagctgc   3480
tgttttctga aggtgagaag ccatttttag ctcagagcaa cccttaagag aacttttggc   3540
agattttgtt ggcattattg aaatatatat agaaaagttg ctgattgcaa tggttatggg   3600
aatggaattt aatgacattt gtaatttatt acactcattg gttttttattg attatagtat   3660
tgtctgactt tttattttct actatggttc ctttagcaga aaagtaactt ttgtgcatat   3720
attgaagtgg ttttttcagct atgaattctt tagggtagaa atttatttag caaatgtgaa   3780
ttctttttgag aaagtatgaa gttttgcaga aattgactgt gaaatgtcag agaaaaataa   3840
aagtcactta cttgaaacct a                                             3861


<210> 5780
<211> 291
<212> DNA
<213> Homo sapiens

<400> 5780
gttgttgttt ttgaaaccaa gtcttgctct gtcactcagg ctggagtgca gtggcgcaat    60
ctcagcttac tgcaacctcc acctcccagg ttcaagcgat tctcctgcct cagcctccca   120
agtagctggg actacaggcg cacaccacca agcccagcta attttttgta tttttttagta   180
gagacggggt ttcacacgtt ggccaggctg gtctcgaact cctgacctca ggtgatccac   240
ctccctcagc ctcccaaaat actgggatta caggcatgag ccatcacacc t             291


<210> 5781
<211> 474
<212> DNA
<213> Homo sapiens

<400> 5781
agaaataatc tctcaagctc ttcgtacaaa gtttgattaa gagagagtgt ctgcaactct    60
ctgctttgct cccagctggg tctgctgttc tagtgagcgc cagcagttat tctcgttttc   120
tgcagtattc ccaggctgcc aaaaggctct gctctgtaag ctgagaaaga ctcaacagct   180
acaacactgg tgttcacagc agcaaggttt atttcctcac aagatgatat tcctgggttt   240
gcatacgttt gctctttca gtgaaccatg tcctctaaat gtcaccttgc ttccattcag   300
cacggtctgt gttccgactg tccaggggct tccaggaaca gcccacagat tgatggcttg   360
ctgaaagctc cctcgttatc tttcactgta aattcctttc atcagtaatc tcttgtgccc   420
tggatgcagc acttctttgt acgcgtgctg tgaaataaaa tctcagataa tgtg          474


<210> 5782
<211> 1820
```

<212> DNA
<213> Homo sapiens

<400> 5782

```
atctttaggt ttttcctata gaaaacattc ttcctccatc agtagccctt tatttgatat    60
tcagaagtgg aaagcttttt cattctccag tagaactttt aaaaattgtt acagatacct   120
agctcttcac agatatcatg tactgtaaac agtcatgtgt cttaatttta ttttctctat   180
ttgagtgcat aattatccta ataatcccaa agacactgac aactcaagga acagcagtac   240
agtactatta gaagttaagt atgttgttgt tatttcacat ttcatttaat tgtggataaa   300
tgttagacat ctgttgaaat aagctcatat ggtggaaacg acaactatat tatgaattat   360
tttcagaaat ggatctttga atagcagatc aggatttaaa taataaaatt atctatgaat   420
cacttttatg gtcatacata tatgatacaa atccagagtt attggtgcag aaatggctac   480
ccgagagctt ggtaaatttg ccttggtttc ttatgttaaa tgtattgtgc ttcccttctg   540
tctctagaat gtggctcttc agaagacaga caatcgacat ttaaattttt ccaaacaatg   600
aaaaactaaa ttaaaaacat tgcttgatat ttcatttaaa attgcacctt gcttaaggtt   660
tactgaataa ctgaaatgtc agcaatttaa aataaattca attgtgtgat aaaatatctc   720
acctataata gaagaaaagg aaaatcatat tatttggcaa ttttgcagca ttgtggttgc   780
ctaacaggta tatccagcag atgagaaaca gtatgaaagg attgtattaa catggtaagt   840
tttgccctaa ggaaaacgat cttgcattct ggattcttgc agcaaagtct cagatactta   900
atacgttttc ttgttttatc atctgttcta tgattcggct tcactttgtg tggttattga   960
attatgtaac agagatttgg ttttcccaaa atgttatcac atttgaaact atgattgctt  1020
tgtgttcagt ccttttggaa cacgtagctt ccagcttaag ggtagagaaa tatataccta  1080
aaatcatcaa tacatgaaag aaaaaggatg gaaactatgt cctcagtttt acttctacca  1140
aaacatccct gtatgtgtgt gcatgtatgt tggcgtgtgt gtgtgtgcat gcatattagt  1200
aaatgtgtgt ttgcatgtgt gtgttgggga gtgtatgtga tctgggtgtt tgtttatctc  1260
tgttattatt ccccttttagc tttatttttag tcaactctac attatgatga atttcaaaat  1320
gaagctgtat taaaataatt gtaatataac aattcaatct cacatgttac tgcagatagt  1380
taacttttgc tgcaatctat tgtacatttg caattttctg tgttagtaaa cttagcagaa  1440
tctggttatt tattttttgtg taggcttaat gttcactgaa agataagtca attactgtta  1500
gtaaaaaatt aaggtactct cactgcagag atttaaggcc tgggcctaat gtgctgtatt  1560
atgaagcctt gtgactgaaa aatatgttta catatgttgt ctatttttttt aataaacttt  1620
tatagctggt ctatttgctc agtagctttg atcctctctt gattattgtg actatagttt  1680
gcaatggttt attttgtatt caataagaaa aattgtgtta ataaagatta ttgtttaata  1740
agccaggtat taacctgcta aatatattaa actgaaaatc actaaatgag tcattcaatt  1800
aaatacatca aaaaaggtag                                              1820
```

<210> 5783
<211> 1821
<212> DNA
<213> Homo sapiens

<400> 5783

```
atctttaggt ttttcctata gaaaacgttc ttcctccatc agtagccctt tatttgatat    60
tcagaagtgg aaagcttttt cattctccag tagaactttt aaaaattgtt acagatacct   120
agctcttcac agatatcatg tattgtaaac agtcatgtgt cttaatttta ttttctctat   180
ttgagtgcat aattatccta ataatcccaa agacactgac aactcaagga acagcagtac   240
agtactatta gaagttaagt atgttgttgt tatttcacat ttcatttaat tgtggataaa   300
tgttagacat ctgttgaaat aagctcatat ggtggaaacg acaactatat tatgaattat   360
tttcagaaat ggatctttga atagcagatc aggatttaaa taataaaatt atctatgaat   420
cacttttatg gtcatacata tatgatacaa atccagagtt attggtgcag aaatggctac   480
ccgagagctt ggtaaatttg ccttggtttc ttatgttaaa tgtattgtgc ttcccttctg   540
tctctagaat gtggctcttc agaagacaga caattgacat ttaaattttt ccaaacaatg   600
aaaaactaaa ttaaaaacat tgcttgatat ttcatttaaa attgcacctt gcttaaggtt   660
tactgaataa ctgaaatgtc agcaatttaa aataaattca attgtgtgat aaaatatctc   720
acctataata gaagaaaagg aaaatcatat tatttggcaa ttttgcagca ttgtggttgc   780
ctaacaggta tatccagcag atgagaaaca gtatgaaagg attgtattaa catggtaagt   840
tttgccctaa ggaaaacgat cttgcattct ggattcttgc agcaaagtct caggtactta   900
atacgttttc ttgttttatc atctgttcta tgattcggct tcactttggg tggttattga   960
attatgtaac agagatttgg ttttcccaaa atgttatcac atttgaaact atgattgctt  1020
tgtgttcagt ccttttggaa cacgtagctt ccagcttaag ggtagaggaa atatatacct  1080
```

2705

```
aaaatcatca atacatgaaa gaaaaaggat ggaaactatg tcctcagttt tacttctacc    1140
aaaacatccc tgtatgtgtg tgcatgtatg ttggcgtgtg tgtgtgtgca tgcatattag    1200
taaatgtgtg tttgcatgtg tgtgttgggg agtgtatgtg atctgggtgt ttgtttatct    1260
ctgttattat tcccctttag ctttatttta gtcaactcta cattatgatg aatttcaaaa    1320
tgaagctgta ttaaaataat tgtaatataa caattcaatc tcacatgtta ctgcagatag    1380
ttaacttttg ctgcaatcta ttgtacattt gcaattttct gtgttagtaa acttagcaga    1440
atctggttat ttattttgt gtaggcttaa tgttcactga aagataagtc aattactgtt     1500
agtaaaaaat taaggtactc tcactgcaga gatttaaggc ctgggcctaa tgtgctgtat    1560
tatgaagcct tgtgactgaa aaatatgttt acatacgttg tctatttttt taataaactt    1620
ttatagctgg tctatttgct cagtagcttt gatcctctcc tgattattgt gactatagtt    1680
tgcaatggtt tattttgtat tcaataagaa aaattatgtt aataaagatt attgtttaat    1740
aagccaggta ttaacctgct aaatatatta aactgaaaat cactaaatga gtcattcaat    1800
taaatacatc aaaaaaggta g                                              1821


<210> 5784
<211> 1821
<212> DNA
<213> Homo sapiens

<400> 5784
atctttaggt ttttcctata gaaaacgttc ttcctccatc agtagccctt tatttgatat      60
tcagaagtgg aaagctttttt cattctccag tagaactttt aaaaattgtt acagatacct     120
agctcttcac agatatcatg tattgtaaac agtcatgtgt cttaattttta ttttctctat     180
ttgagtgcat aattatccta ataatcccaa agacactgac aactcaagga acagcagtac     240
agtactatta gaagttaagt atgttgttgt tatttcacat ttcatttaat tgtggataaa     300
tgttagacat ctgttgaaat aagctcatat ggtggaaacg acaactatat tatgaattat     360
tttcagaaat ggatctttga atagcagatc aggatttaaa taataaaatt atctatgaat     420
cacttttatg gtcatacata tatgatacaa atccagagtt attggtgcag aaatggctac     480
ccgagagctt ggtaaatttg ccttggtttc ttatgttaaa tgtattgtgc ttcccttctg     540
tctctagaat gtggctcttc agaagacaga caattgacat ttaaattttt ccaaacaatg     600
aaaaactaaa ttaaaaacat tgcttgatat ttcatttaaa attgcacctt gcttaaggtt     660
tactgaataa ctgaaatgtc agcaatttaa aataaattca attgtgtgat aaaatatctc     720
acctataata gaagaaaagg aaaatcatat tatttggcaa ttttgcagca ttgtggttgc     780
ctaacaggta tatccagcag atgagaaaca gtatgaaagg attgtattaa catggtaagt     840
tttgccctaa ggaaaacgat cttgcattct ggattcttgc agcaaagtct caggtactta     900
atacgttttc ttgttttatc atctgttcta tgattcggct tcactttggg tggttattga     960
attatgtaac agagatttgg ttttcccaaa atgttatcac atttgaaact atgattgctt    1020
tgtgttcagt cctttttggaa cacgtagctt ccagcttaag ggtagaggaa atatatacct    1080
aaaatcatca atacatgaaa gaaaaaggat ggaaactatg tcctcagttt tacttctacc    1140
aaaacatccc tgtatgtgtg tgcatgtatg ttggcgtgtg tgtgtgtgca tgcatattag    1200
taaatgtgtg tttgcatgtg tgtgttgggg agtgtatgtg atctgggtgt ttgtttatct    1260
ctgttattat tcccctttag ctttatttta gtcaactcta cattatgatg aatttcaaaa    1320
tgaagctgta ttaaaataat tgtaatataa caattcaatc tcacatgtta ctgcagatag    1380
ttaacttttg ctgcaatcta ttgtacattt gcaattttct gtgttagtaa acttagcaga    1440
atctggttat ttattttgt gtaggcttaa tgttcactga aagataagtc aattactgtt     1500
agtaaaaaat taaggtactc tcactgcaga gatttaaggc ctgggcctaa tgtgctgtat    1560
tatgaagcct tgtgactgaa aaatatgttt acatacgttg tctatttttt taataaactt    1620
ttatagctgg tctatttgct cagtagcttt gatcctctcc tgattattgt gactatagtt    1680
tgcaatggtt tattttgtat tcaataagaa aaattatgtt aataaagatt attgtttaat    1740
aagccaggta ttaacctgct aaatatatta aactgaaaat cactaaatga gtcattcaat    1800
taaatacatc aaaaaaggta g                                              1821


<210> 5785
<211> 5251
<212> DNA
<213> Homo sapiens

<400> 5785
tttttttttt tcagtagaga cggtatttca ccatgttagc caggatggtc ttgatctcct      60
```

```
gacctcgtga tccacccgcc tcggcctccc aaagtgctgg gattacaggc atgagccacc    120
acgcccggcc aagtggaatg aattttcaag agcattgaag ttaccataag gggcctagaa    180
atactctgta tacctatata gtgctctagg tattgactag tagtgatttc cagcatatca    240
gttcagttac caaaataaat aataatattg ttcatttttg tggtgttagt agctgtctta    300
gaagagattg taacacttga aattttggta aaactaaaaa tactctacat acattaactt    360
cattactcat tttctgtttt tcatgttaaa atgttgttta aagaacaaaa ttaaatgatt    420
ttcttctgat attttattct gtgaatgtat tttgggaatt tttttcccca ttttccttct    480
acactttatt tggtatgtca tcatccttag atttgatatg tagtaggttt agagaatatc    540
tttgcttttt acattttttt cataagtttt atatatgaaa tatcatggaa agaagttcta    600
ggttataaat atattaataa tggcatatat acatttatag catctctgtt ttcatcaaac    660
tgtttcatag ttctattata attttttattc acagacattt aatgattacc cttaatattc    720
atgacaggag ccctctggca caaatggaag aagaaagaag ggagcaagta gctaaaatta    780
agaagatgga gatggagatg gagcaggtgt ttgagatgaa ggtcaaagaa aaagttcaaa    840
aactgaagga ctctgaagct gaggtaatca gtccaatatt ccatctctta gcagacattg    900
tgttcctttt taaatagtat cttcagtaaa atttatagat aatataacct tcttatacat    960
attttttaaa aattaatacc ctagcataac aaaatggaga aatttctaca agcaagcact   1020
gtttacaata aaataatata gacttcaata cataagtgct tggacatagt gtattaggta   1080
tgacagcata atagagtact tacaatgaat tattaaagtt ataatgaaca agtgtgagtt   1140
gggaaaaata aaattataag ccattccata caggtggcat aagaacacta aaaatgagag   1200
tttggggtgg atgtatgcac aaaaactagt gttaggataa taataattga ccagacttat   1260
ttgtgtatga atgaaaaaga gggaaataac ctttactgaa ctaaagacat gcctggataa   1320
attacacaca gttaaaggag agaaaattag ggaatgtgat attttttgcta acaggttggg   1380
ccttatttat aatgtagtgt caaggaaact cctagcgtcg caacattggg cagggtaatg   1440
acaaaacatc ccagcagaca tatctactat cttgaaaccc ttctagatgt cgagttatac   1500
atttagtttc tattagtcaa aaagaccttg gagacatttc cttcattagg tggcaagaaa   1560
gaaaagatgg agaaaaggat aaacttaata taagaatcca cagagcagta gtttgataga   1620
tatctgagaa tagtaggaaa aaaattgggt aatcccaaaa taaatcagtg atttcagtat   1680
gaagttttct caacataaat ctgctataat taaaaattac aggccttcag gaagtgtcga   1740
gtctgggacg cccagcgcgg gcccgagcag ggggaaggga agcgcagctc ggtccgcgtg   1800
ggtggagggg acgtgaagcc gccctgagat gatggttgag gaagggctct acggctccca   1860
agctaggcca aatgcctccg gcggccgcgc gccgggcgcc ccttccctg tggggcaacc   1920
ctagcttggg acgcgtgaac cacctccgta gctgccccac cagcacccc agccgtgcgc   1980
ccctgcacca tgcagctgcc ctgcgcatgg agccgcgagg gacagcaggc ccagccctca   2040
gcaccacctg cctgccagga ggttcgggaa actggcgccg cagcggagag ggcatctgtc   2100
caacgcctcc cccggggctc agctgcgggc ccccaggcat aggcacccat gacccttctg   2160
tgttgtttgt ctttgtatag tctgcagatg tggatcctga ctcctgagag aagtagctca   2220
ccgtgacgaa gctgcgtttg ctttttatcga tttgcaaatc aaagaagggg gacatattgg   2280
gagaaggccc cccaaaatct gccataaact ggccacaaaa ctggccataa aatctctgca   2340
gcactgtgac atgctcatga tggccataac gcccacgctg gaaggttttg ggtttaccgg   2400
aatgaaggca aggaacacct ggcctgccca gggcagaaaa ccacttaaag gcattcttaa   2460
accacaaaca gtagcatgag cgatctgtgc cttaagggca tgttcctgct gcagataact   2520
agccagaccc acccctttat ttcaggccat ccttcatttt cccataaggg atactttag   2580
ttaattgaat atctatagaa acaatgctaa tgactggttt gctgttaata aataagtggg   2640
taaatctctg ttcggggctc tcagctctga aggctgtgag acccctgatt tcccactta   2700
cacctctata tttctgtgtg tgtgtcttta attcctctag caccactggg ttagggtctc   2760
cccaactgag ctggtctcgg cacttctctt tgccttaaaa acaggtacag cggaccttcc   2820
tggcatcaga aaaaggcctc cagaaaaaga gacacaggta ctagcaattc caaattatcc   2880
agagcccttc taagttgtaa gatctgaaag aaatgtctgc catctatatt ctcagccaca   2940
cttagtttct taatctgcaa gatggaatta ataatagtac ttactttatg atgctgttgc   3000
agaaattcac tgagttgcta cacgccaaac actgagaacc cagctgggca tataataagc   3060
attctattgc atggcattat tgcatcattt ttacttctat tactgctact gcttgtaact   3120
gcttgtaact gtttgtgctt ttttgatatg aaagtccacc atcagggagc actgtagtgg   3180
aaaaggtatt aggccaggca tagctcttag ttctctggcc ttgggtcctt catctgtgat   3240
attcagttaa caataccag ccagtagggg tgttaaagat taaataaatg tgagaatgtg   3300
cctgttgctt aatcttcctc aaagggttat ggactctcag agccagaaga aggtcatctc   3360
tcctttgctc ctcgtatgct gggatctgcc acatcaatgg caacagctgg cctccagaa   3420
tttgctccag ggtgtttgga agtcctgaca ccctcctgat cttctctgta acatgcacac   3480
tttggcctgt gtcagtttgc tggaaccaca tcaggccggc cctcttcctg ggacaaaatt   3540
ctttcttttt ctttcttttct ttttctttct ctttctttct ttttctttct ctttctttct   3600
cttttccctt ccttccttcc ttccttcctt ccttccttcc ttccttccct tttcttttct   3660
tttctttcta ctgtgacata atcttggctc actgcaatct ctctcctg ggttcaagtg   3720
```

2707

```
attctactgc ctcagcctcc aaagtagctg ggattacagg tttgcaccac catgcccggc    3780
taattttttg tattttagt agagacagtg tttcaccatg ttggccaggc tggtctccat    3840
cacctgatct caggtgatcc acccacctca gcctcccaaa gtgctgggac tacaggcatg    3900
agccaccacg cctggccgag agacagttaa gttatacttt aaatgataat aggcctcccc    3960
caaaactcag ctgcttttgt aaagctaatg ggaggccatc aggctggggg caaggaggag    4020
agcccggatc ctgctaaggt gcagacataa acgagtatca gccattattc tggaggttat    4080
aagatatgca ccttccccaa ttacccctgc aatcacacca ttattgtaga ttggccctta    4140
gagtatcttt tcaggttttt tggcatgtct gacactcatg gctctacttg gacccaccaa    4200
ccctgctcct atggctccac ccagaagcca ttcagcctag aggacagctc tgaccccccc    4260
tgtgatttca tacaatcagc agcaagtaac tgttacctca ccatccccac cccttctgcc    4320
agactgcctt tgaaaaacct ctaacctgtg agcacgagat gattccagaa caaactctgt    4380
ctcccatgtg gcatgaccag ccttgggtct cttaaacttt ttctccacta taatgccatg    4440
gtctttatgc agcaggcagg aagaattcag gtggttataa ttccgtatgt gctttttgaa    4500
cattttctta ctgggctatt gctctcttca taatgatttt tttaacttct ctctataagg    4560
aactgatttc atctgaaatt gaagagacaa tcagagaaaa actatagacc actcatgatg    4620
gttgttatat gtgcttggct gggccatggg tcccagtgtt tggtgaaaca cagcagcaga    4680
tgtccctgtg agtagatgtt gctttgaagg tatctttag atgtgatgaa catttgtcat    4740
cagtagactt tgagtaaggc agatagcccg tcacaatgtg gatgggcctt atccaattag    4800
ttgaaggcct ttgaaaaaag actgagatcc caaacgaaga aggaattctg cctccagaca    4860
gccttccaac tcaagtagca acattacctc ctccctgcgg ctctagctgc tggcctttcc    4920
tatagacttc agacttgcca gccccacaat catgtaagcc aattccttaa aataaattct    4980
ctgtcctgtt tttgcccct ctctctttct gacagcacac acatgccctc ttggttctgt    5040
ttctttgaag aaccccagga aaacacacaa aggaaaaaca actcgataga cagaagattc    5100
ttcaatgaca acaatggaag ccatcttcac cattcaacta aacttgaatg ggatattatc    5160
aaacttaaaa aaaaattatc aactgatcgt gtaatcagtt tcatctttta agacaggaaa    5220
tgaaataaag tatttacaga tgaatgtaaa a                                   5251
```

<210> 5786
<211> 105
<212> DNA
<213> Homo sapiens

<400> 5786
```
tttttttttt ttgagatgga gtctctctct gtcacccagg ctggagtgca gtggcgtgat      60
ctcggctcac tgcaagttcc acttcccagg ttcatgccat tctcc                      105
```

<210> 5787
<211> 8297
<212> DNA
<213> Homo sapiens

<400> 5787
```
tttttttct ttttttttt ttttgagacg gagtctcgct ctgtcgccca ggctggagtg       60
cagtggcacc atctcggctc actagaagct ccacctcccg ggttcacgcc attctcctac     120
ctcagcctcc cgagtagctg ggattacagg catctgccac catgcccggc aaattttttt     180
tttttttttg agacggagtc ttgttctgtc gcccaggctg gagtgcagtg gcatgatctc     240
ggctcactgc aatctccgcc tcccgggttc acgccattct cctgcctcag cctctggagt     300
agctgggact acaggcgccc gccaccgagc acggctaatt ttttgtattt ttagtagaga     360
cggggtttca ccgtgttagc caggatggtc tggatctcct gaccttgtga tccgcccgcc     420
tcggcctccc aaagtgctgg gattacaggc gtgagccacc gcgcccggcc gcaactctct     480
tttttcattc agcattgttt tatgagagtc atccaggtga ctttgtgtca tgttcattta     540
ttttaactgc tttatgaaat tctcttgtgt gaatacatga ccacagtccc ttctcagcaa     600
tgctaaaaat ctaaacatct ctgaaaccac agttttttggt tttgttttta acctatttgg     660
tggccaaaac ctcaccaggt aaagtttaat agcctctacc acttagtata gatacctaac     720
acatttcagt gaagaaataa cgtctgatga tggggagtgc ccccaaaccc cagtgaggct     780
gttacatggt aaattgtgcc aaataatcgt tgtacattga agaattctga attccaaaac     840
ccatctgccc aagggtttta aacatgcagt tctgtgcgcc acagtccctt ggtccacgct     900
gctgttgaat gaacgctcag gtgggtggct tccacattcc tgccgctttg aacggtgctt     960
ctgtgaacag cgttgtctgt gtttggtgca tcctggtgag ttttttctaga atataaatgt    1020
```
```
                                    2708
```

```
attaaaagta gaattgctgg gttgtgagga gcacacatgt tcagctttgt aaggagtacc   1080
agattgtttt tgtagcacag tccgttctcc tgataccaga gtagaaaaag ttgaagtgaa   1140
cttattcttt gctaagcatt ggcattctca gtctggtggg tgtcccacgg cagcgttgtc   1200
tttccgtaca tgctcagtgt gggattctcc ggctcacagc tcttccagcg ctgccctctg   1260
cccttggagg agcatctaaa cccctccctc agctgttatt ttttttcctgt agaaataaat   1320
cagaatgagt tatgcagaaa aacccgatga aatcacgaaa gatgagtgga tggaaaagct   1380
caataacttg catgtccaga gagcagacat gaaccgcctc atcatgaact acctggtcac   1440
aggtaatggc ttacagtgag gatgctgttg catgaatgtg attctccctt tttgaacaca   1500
taaggagtgc tgtagcactg aggtttgatg acgtagttat ttgtgttcag acattatgaa   1560
aacacaatgc taacctggta agtttggaag ttatcatgtg aaagcctttt ctgaagatga   1620
gattttttcca ggtctctgag acctaacaca aacccatttt tcagcctttg acagttttac   1680
agttactcaa aataattgag actgttgtga agtaagtata ttgaaagcct aaatagttga   1740
tctcttctgg ccagtctgca aaaatatgct ggcctgtttc tggaaagtat gcccaactca   1800
gaggatggga atggggaaga gcagaagcgt gcagagggaa ataacagtca ggctgttctt   1860
gatgtcaact ggaggaaggg cagtgctgta tatggcaaga aaatagatgt ttttaaaaga   1920
catgacatga aaaatctccc tcctgttagt ccccagttcc ttctcccaaa ttaatctctg   1980
tgaaactttt ttgggccaag catggtggct catgcttata gtcccagcac tttgagagac   2040
agaggaagat tgttcgcgcc taggaattcc agaccagcct gggcaacata gtgagacctt   2100
gtctctacaa aaaaaaaatg ttaattagct ggatgtggtg gcttgtgcct gtagtcccag   2160
ctacttggga ggctgaggtg ggaggatcac ttaagcccgg aaggcggagg ttgcagtgag   2220
ccaagattgt gccactgcac tccagcctgg gagagtgagt gggaccccat ctcaaaaaaa   2280
atatttttgg aaggtgaaga ggaaatttag gcctataatt atgtcagggg caggggaagg   2340
ggcacacatg ctggctttga aaaattgtag acactcttaa gaggtgggag tcaacaggcc   2400
actgcaggta tagctgacca tggagggccc ctgtgctgtg gaggctgagc cagtgtgact   2460
tgcctaacct ggcaccagag ctgcggctgc tggcgtctgg acctattatc tgtcctctca   2520
aaggagccca caccaacaca ctgggccagc agccattctg acctctttgg ctaatgggtt   2580
agagtttttg gatgggataa caaggaatga agtatactct tctcattttc tatatgtatt   2640
ttgagagcat aacttgtaaa ttataaagat attaataccg agttcctgag aaagtgtggt   2700
tcacatcaga ggttattaat tgaggcaatt ggagtttctg gagatacaaa gtctttgcct   2760
taattccttg ctaactttcc tagcagtgaa gatggttttt ctattcagag ggctttaagg   2820
aagcagcgga gaagtttcga atggaatctg gaatcgaacc tagtgtggat ctggaaacac   2880
ttgatgaacg aatcaagatc cgggagatga tactgaaagg tcagattcag gaggccatcg   2940
ccttgatcaa cagcctccac ccagagctct tggacacaaa ccggtatctt tacttccatt   3000
tgcaggtatg tttcaggaga gagtagtctg gtttgtgaat acttgataag ttaaagttat   3060
ttgcaatgat tgagaaataa ctaggctaat ttgctttaat aatgttattt caatgcatgt   3120
gaggggggaga ggtttgagtt tgctctttta tgtagttcag aagcggtttt ttgtttaaaa   3180
aatgcaaatt tgataactca gagatgcaag aaaagtcttc cctctgtgat gtacttttga   3240
ttgggacctg gtaccacctg ccctaagtcc ctggcctggg tgtgtggggg tcaagcttgt   3300
ctgtctctgc ctccagcaac agcatttgat cgagctgatc cgccagcggg agacagaggc   3360
ggcgctggag tttgcacaga ctcagctggc ggagcagggc gaggagagcc gagagtgcct   3420
cacagagatg gagcgtaccc tggcactgct ggcctttgac agtcccgagg agtcgccctt   3480
cggagacctc ctccacacca tgcagaggca gaaggtgggg cctgccagag ggaagctttc   3540
ttccattccc catgtgctct gagggggctt cgtgacaacg ccaagtgtgt ggctttgctg   3600
tgtggactga gagacaggtg gcttctgtgc ctgggatgct aagtggttcc ttcatggctt   3660
tttttttttt ttttggaggt gaagtcttgt tctgtcgccc aggctggagt gcagtgacga   3720
gatctctgct cactgcaacc cccgcctcct gtgttcaagc gattctcctg cctctgcctc   3780
ccaagtagct gggactacag gagtgtgcca ccacgcccag ctaagttttg tatttttagt   3840
ggagatgggg tttcaccata ttggccaggc tggtcttgaa cccctgacct caggtgatcc   3900
agtctcccaa agtactggga ttacaggtgt gagccatcat gctcagcctc tctctggctt   3960
ttaatctttt atcttgtcaa actagggaca acggacttgg tgatcgttac acagtattca   4020
cacccttttgc tggtgtctta tatttatctg aaccttcttt ctgtttatgt cccaagtatt   4080
tctcatttaa aatcctgtct tctgaaactt ttctctcctc gctgctatgt ttttgtctgg   4140
cagaacatga cagctcctcg ccttcccaga cccaggtccc tcttcccccg ggtcctctcc   4200
cggggggctct gtcctcccta cgctgtcttg gaaggatggc ctgtcctaga gtccacttga   4260
gatgttttct tgaggcttgt gaggaggggtg ctggtatgtc ctgctacgct ggtcttacct   4320
ctctcccagt cccctcagca ctttgttcaa ggcttgctca tggcacttaa ctgccatcga   4380
ggttgcatgt gacgtttaac aaccagactg tgagcttccc caggcaagga ctatgtattt   4440
catgtcctga gagtgtctcg cagttaagag cttaatgttt gtttaaactg cctcttttta   4500
atagactctg ctggtgctct gcgtgtatgg tggttttttat cagatgtatt tatattctag   4560
gtgtggagtg aagttaacca agctgtgcta gattatgaaa atcgcgagtc aacacccaaa   4620
ctggcaaaat tactgaaact actactttgg gctcagaacg agctggacca gaagaaagta   4680
```

2709

```
aaatatccca aaatgacaga cctcagcaag ggtgtgattg aggagcccaa gtagcgcctg    4740
cgcttgcgtg gtggatccaa caccagccct gcgtcgtggg acttgcctca gatcagcctg    4800
cgactgcaag attcttactg cagtagagaa ctctttttct cccttgtact ttttttttgac   4860
ctggcatctt tttataggga aaaatggcct ttgtaggcag tggaaaactt gcaaggaaag    4920
ctgccgtctc tttggcagtc tgatgcagag cctgcactct ggcactcgct gaagaatctg    4980
gaaggttgcg gtttgctctt ccagtgttcg ggggcctctg gctgctgaag gattcggtct    5040
accacggagg gctgtgctgt taggctgcat cccactcaaa atacaggaaa agcacgaatc    5100
atgattctgc tttctgttag cttaggcaga cattgggcct tcacctacaa gttttttcctt   5160
acccctgtgg tttttgtgtt tttttttttt tcttttttcca taggaaagaa tatataaatt    5220
tgtaaatcct aattcaaaga tggctcatgt gtgagggcat tgagtttgat ttgttttccc    5280
tttggtctgg gttgtgtggc ttttggggga tgcgtgtgag ggggctatgt gttttttaat    5340
ttttttaaata tatattttgg tgctgtgtgt ggtaagagac ttgttcctag tggatcaatg    5400
aaccatctct tctgggcagt tttgttgaaa ataaaggttt ctctttgatt tcaagaatga    5460
ccaaaatggc ctctaaaaga tgttaatcat ctcaaatgac cttttgtctt tggggcgttc    5520
ttccccctgt gatagcggca gtggcttttt ctggtacctg cagctggaaa ggccacttgg    5580
ccctgtgctg agtgagcggc cttcattaga gcgaggcagc ccttggccgg tggggacgca    5640
gagccccagc aggtggtgca cgactgttgg cggaaggaac gcgtgttcat cctcagtgat    5700
ctgccctcca gcatctcggc agcatctcat cctccatcgt cagctggctc tgccgatgtc    5760
ctgcttctgt tcactcacag aactgtcccc tgctccgtgg tgggcaggag ggaagtggtg    5820
cagggctgcg tgcattgcct gcgagtcggg acagttgatg ggcacatggc cttgtagctc    5880
tgggcacaga tgtgtttgga ttcattgcag cggaccaccg ggcactgttg accccactga    5940
gcagtgctaa gtgttggttt agtggatgtt cgtggaattg ctgacccatc caagggcgtc    6000
ctttggagcc agtggagcct gccggcgcat ctgaggggca gaatgctgct agcacttgaa    6060
tctgggatct cgccttattc tcaagtagca aggcatctcg acaagcatgg tctaggtctg    6120
gtggccagct tgccagtacc tgagccggtc gggtcatctg cctctgaggg accgtcctca    6180
ccgagctcct gcatcccttg agtgttgatc aggaggcgtc cacagcattg ttctcgcctc    6240
tgaatgatgc ttctttctgt gttggagcct ggcgaagttg tgttttcaag ccctctactt    6300
ctctttccag tgggtaggag ctttttggcag tgtttacttt acctagatgg cttatataat    6360
ccagtaagag atgcaaagat aaaattgctg cggttgttac agaagcatgg cggcctccag    6420
actgacccat tggttgccct ttagattttg taaggatgcg gtgctgggga ggtggtgctt    6480
ccctaccccc tagaaatgct gccttccaac taccactctc ccagatgtga cccttgcgat    6540
tatttcctct gaggtttgag gatgaagata agttggaggg aaagagagta actaataggg    6600
gatgaaatat agcagaagct agaagaaagc ggtgaggtga gagagatgca tctgcacgtt    6660
ttcttcaaca gcaccaggtg attcagcata ttcctaatta cctttcacta ttcgtgtata    6720
taagatcgtt tacttgcata atatatcatc aatttgacat attcttaaaa ctagagggtg    6780
tgagaagcac agcaatagga agtctctcca caaactaggg gaacacaaat ggggtcattc    6840
acgtgcctgg actgtcacta tgtggctgtc acgtgaagtg ctggtgttga tttccatttc    6900
agccagtggg tagctgataa gccagtgcca gcatccagca tgagcagatg tcggggagac    6960
tgggaagtct ccagcgttac tgctctcctt cccttcatga taagccagtg ccagcatcca    7020
gcgtgagcag acgtcgggga gactgggaag tctccgatgt tactgcctgc cttcctttcg    7080
tgtgagggggc tgcacttgct tttcttgtga tctgttagtg gacgaggtct tccaaggaag    7140
tgctttgcac actttctttg ctccttttta cagtctttgt cttttgcagca agcaaatgaa    7200
attaagccac tttgggataa tgaacattca gtataattct actttgtctc attttggatc    7260
tcactgttgt ctttataaaa atggcacatt ttacaaagta gtttattctt attatacttt    7320
ctgctggaga gtgccttgaa ataaaatgtg agagtattct ggtactctgt gttccagatg    7380
catgaaattg ggtgaggaat aacccctagt ctggaatctt tgtgaagcat agggttattg    7440
caaggcaaat gggaactaac acatcttgcc atttgaatca gggtctccag tttctagaaa    7500
aggcagacac tggttgggac caaagtctcc atggcacatg actgaagact ggtggtcgtg    7560
tgtgtgcgga gtccacggaa gcctcgggga ggtggagctg ctccttccat tccgtcagga    7620
cgtgatctga aaacatgtag agaagatgag ttgaggacag ctttttctaag gcaatgtgat    7680
gtctttgctt tcttatttct ctttctctgc gttgttagtt ttgaagagtg gaggagctag    7740
gggctccaga aagaatctta cacatgtgtt gaagacattg atgtcatagg gagcggggag    7800
ctgcattccc ttctgggctg ttactgctaa atctcagtat gaacagacca ggcggaaagc    7860
ttggtggcca agcagtctgt gtgcttcccc gctgatggag aacgttgcgt tgttcacaat    7920
agggcctcat gggtgtagcc gcatggcaga cccatggctg gcgcagctgc ctgttgccgt    7980
ctgtcttcag taactgctgc tctgttaact gttctattct gatactacgc gtgttgtttt    8040
ttacaacagg tatgttttg tttcagaaat atgtattgct tttctcatat tttttgcaaa     8100
ttgtattgtc aacatgggtc atttaaagtc ctgtatgaac cataacctgc tgtggtacct    8160
ttgtacatgt ttgattctgt attctttatt ccagtgtggc atatgtgccc ctctgtatct    8220
tttgagaagt gcggaatagg ttgcttctac cacctgttct taatgtaaca gtaaaagttt    8280
tcacatttttt ctcagaa                                                  8297
```

2710

<210> 5788
<211> 665
<212> DNA
<213> Homo sapiens

<400> 5788

```
aattcttggc tttaaatatc cctgtgcccc agcaccgccc ccccgcccc ttatttcact      60
aattcatgtt ttcagctctg agctcaggat ctgtaattca gacacctgct tgatttctcc     120
agacgcatgt ctaatagtca cgtcaaactt gccctgcttc tcaaacctgt tcttcttcca     180
gtccttcctc cttatttgtg gccccatctt gcagggcctc tcatgcttga aacctgtgac     240
catcttctat tcttccctct cttttgtccg gtaatctgtc tagcagcagc cattgactct     300
ggccaaagca tcttgatctc accttgctct ccatctcttc tgccgatgtt ctctctcgct     360
tgggtgtctc cctaagggac tggctgctca gatctcacca ccctgcattc atcccatttt     420
cagccaagag accaaagttt tttaatttat tgaaacactt tagcagtact tcgtataaag     480
tagtatgtgt aacgtatgta tcagtggcaa aagagaaaga cagagtggac ggtggcgtgc     540
ccctgcctgt ctcaggtatc cacccattct cccaaagccg gaacagctgc ctctggggct     600
tcagccattt gcccctccca caggtaaccc cctcctgagt gtcagctttc atgcccttat     660
ttaaa                                                                 665
```

<210> 5789
<211> 434
<212> DNA
<213> Homo sapiens

<400> 5789

```
ttttttttgct taatgaaatt ttccaaacat attaaaaaca gagggaatac gccagcacat     60
cccagtatcc accagtcagc ctgacaccca ccaccacctg ccagagcccc aggcaggaga    120
taactacagg tgtctgattc tgggtggcta ccatgctttc agggccatga gcgtcttcat    180
gagtggaagg cagttgtagg gttcttggaa aggactcaga ctgacccctt caagggcctg    240
aggtgaaatt cagaaactgc ccatgcagag aagctgagca gcgggcatca tggagcgagg    300
cgttgagagc ttgcatgttt gttgggtatc agagaacagg gaaggcctct cctcacctgc    360
tgctcctccc tatgtggcag tggcatgtca cagtgttctt gatgttcaca cacctgtgcc    420
agtccattag cctc                                                      434
```

<210> 5790
<211> 1578
<212> DNA
<213> Homo sapiens

<400> 5790

```
cttacactcc gctcggctca ccatgtgtca ctctcgcagc tgccacccga ccatgaccat     60
cctgcaggcc ccgacccggg cccctccac catcccggga ccccggcggg gctccggtcc    120
tgagatcttc accttcgacc ctctcccgga gcccgcagcg gccctgccg ggcgccccag    180
cgcctctcgc gggcaccgaa agcgcagccg cagggttctc taccctcgag tggtgagtat    240
cgccgaagtg ggcattcgcg gggtgcgctg ccctggagtc actggggaac gacccgactc    300
cagaggcctc gacctgacct gtctcctgtt ttgtctcccc ttaggtccgg cgccagctgc    360
cagtcgagga accgaaccca gccaaaaggc ttctctttct gctgctcacc atcgtcttct    420
gccagatcct gatggctgaa gagggtgtgc cggcgcccct gcctccagag gacgccccta    480
acgccgcatc cctggcgccc accctgtgt ccccgtcct cgagccctt aatctgactt    540
cggagccctc ggactacgct ctggacctca gcactttcct ccagcaacac ccggccgcct    600
tctaactgtg actccccgca ctccccaaaa agaatccgaa aaaccacaaa gaaacaccag    660
gcgtacctgg tgcgcgagag cgtatcccca actgggactt ccgaggcaac ttgaactcag    720
aacactacag cggagacgcc acccggtgct tgaggcggga ccgaggcgca cagagaccga    780
ggcgcataga gaccgaggca cagcccagct ggggctaggc ccggtgggaa ggagagcgtc    840
gttaatttat ttcttattgc tcctaattaa tatttatatg tatttatgta cgtcctccta    900
ggtgatggag atgtgtacgt aatatttatt ttaacttatg caagggtgtg agatgttccc    960
cctgctgtaa atgcaggtct cttggtattt attgagcttt gtgggactgg tggaagcagg   1020
```

```
acacctggaa ctgcggcaaa gtaggagaag aaatggggag gactcgggtg ggggaggacg      1080
tcccggctgg gatgaagtct ggtggtgggt cgtaagttta ggaggtgact gcatcctcca      1140
gcatctcaac tccgtctgtc tactgtgtga gacttcggcg gaccattagg aatgagatcc      1200
gtgagatcct tccatcttct tgaagtcgcc tttagggtgg ctgcgaggta gagggttggg      1260
ggttggtggg ctgtcacgga gcgactgtcg agatcgccta gtatgttctg tgaacacaaa      1320
taaaattgat ttactgtctg cagtcttgag tgtatctttg caagcgccga ctccccactc      1380
ctcccggcct tcagatggca aggaccggcg ggaggcgccg tggccgagtc cccagcccgc      1440
gcacctccct gggcccagga gccccttttc ctggagtcac agaacccagc atccggttgc      1500
cggatgtagt ctttcattgc ccagtctgcg gttttcccag gtagttgccc cgcggcgaat      1560
ccgagatgtg gcaatcac                                                    1578


<210> 5791
<211> 1578
<212> DNA
<213> Homo sapiens

<400> 5791
cttacactcc gctcggctca ccatgtgtca ctctcgcagc tgccacccga ccatgaccat        60
cctgcaggcc ccgaccccgg cccctccac catcccggga ccccggcggg gctccggtcc        120
tgagatcttc accttcgacc ctctcccgga gcccgcagcg gccctgccg ggcgccccag        180
cgcctctcgc gggcaccgaa agcgcagccg cagggttctc taccctcgag tggtgagtat        240
cgccgaagtg ggcattcgcg gggtgcgctg ccctggagtc actggggaac gacccgactc        300
cagaggcctc gacctgacct gtctcctgtt ttgtctcccc ttaggtccgg cgccagctgc        360
cagtcgagga accgaaccca gccaaaaggc ttctctttct gctgctcacc atcgtcttct        420
gccagatcct gatggctgaa gagggtgtgc cggcgcccct gcctccagag gacgccccta        480
acgccgcatc cctggcgccc accctgtgt cccccgtcct cgagcccttt aatctgactt        540
cggagccctc ggactacgct ctggacctca gcacttttcct ccagcaacac ccggccgcct        600
tctaactgtg actcccgca ctccccaaaa agaatccgaa aaaccacaaa gaaacaccag        660
gcgtacctgg tgcgcgagag cgtatcccca actgggactt ccgaggcaac ttgaactcag        720
aacactacag cggagacgcc acccggtgct tgaggcggga ccgaggcgca cagagaccga        780
ggcgcataga gaccgaggca cagcccagct ggggctaggc ccggtgggaa ggagagcgtc        840
gttaatttat ttcttattgc tcctaattaa tatttatatg tatttatgta cgtcctccta        900
ggtgatggag atgtgtacgt aatatttatt ttaacttatg caagggtgtg agatgttccc        960
cctgctgtaa atgcaggtct cttggtattt attgagcttt gtgggactgg tggaagcagg       1020
acacctggaa ctgcggcaaa gtaggagaag aaatggggag gactcgggtg ggggaggacg       1080
tcccggctgg gatgaagtct ggtggtgggt cgtaagttta ggaggtgact gcatcctcca       1140
gcatctcaac tccgtctgtc tactgtgtga gacttcggcg gaccattagg aatgagatcc       1200
gtgagatcct tccatcttct tgaagtcgcc tttagggtgg ctgcgaggta gagggttggg       1260
ggttggtggg ctgtcacgga gcgactgtcg agatcgccta gtatgttctg tgaacacaaa       1320
taaaattgat ttactgtctg cagtcttgag tgtatctttg caagcgccga ctccccactc       1380
ctcccggcct tcagatggca aggaccggcg ggaggcgccg tggccgagtc cccagcccgc       1440
gcacctccct gggcccagga gccccttttc ctggagtcac agaacccagc atccggttgc       1500
cggatgtagt ctttcattgc ccagtctgcg gttttcccag gtagttgccc cgcggcgaat       1560
ccgagatgtg gcaatcac                                                    1578


<210> 5792
<211> 473
<212> DNA
<213> Homo sapiens

<400> 5792
gccagatcct gtctcaaaac aaaaaaaaaa agttaaattc tgtgtccatg agcagctgtc        60
tgtaaggaag ttatggaaat gtgaatctgc tttaagttga gtaattacca ttactgtaac        120
atttgtataa tgtctcacaa tttagaatgt ttgtcccata aatttggttg tttgacttac        180
agcaaggggc aaatctgggt ggctgctaac ctattgcctt tgtatttgtg gccctctgca        240
ccagccttta tgtgaatatt tctgcacgct cctaagagag tagttttgct gaactgtccc        300
tatacagtct ttgcaccttt actgtgtaca tgtgtgttgg taggtgtacg tggtatgttt        360
tcctttttt ccaggattgc attcttttta tggctgaata atatttaatt gtgtattgtt        420
gttgttgttg ttgttatttt atagtgacaa ggtctcacta tgttgcccag gct             473
```

2712

<400> 5793

```
gcagcaacgg ggtgcggcag ggtgggggaac gcgggagcgg ggccagctcc caggaaagct      60
ggtctgcgag cggcccctgc ccggctccca ggtccctgcg cgaccccgcc cttcccgaga     120
ccccagccgg gctgccgccc gcgtcccgga aggtgagtgg gggaggggag atggagcctg     180
gggctgccga gaagcaggga gagaggggaa aggtctgcag gcctctgggc gcggggggacc     240
tttatcaaag ggagcggcga ggggaaggga gggaccatac gcaggcggag aagaggtagc     300
tggggatctt aaggattttg tagggaaaag ccttagcgga cccatgggtg tagaagggac     360
gggccgtggc ggatgcagac tgggagggcc tgacgggaaa gggaaaggat gggcccctgt     420
ggacgccaca gcgcgccttc cccatccgca aaggctttcc ctccctctcc tccagctcca     480
gcctgaacca tgtttttcac ttgtggccca aatgaggcca tggtggtctc cggtaagtac     540
tgttgttccc ttcccagcca gtgaccccag aacccctgtg agtctggcct ctgccccttc     600
tccctctccc taccaacttc ccagcaccag acttctgccc cttgatggcc acgaactgcc     660
cagtttgatt cccaccattc caaggcccag actgcttccc ctccagctcc cagattctct     720
cctgtgggtt gctgtccect caccccgcc agttcctcag tcttccacat tcaagctctg     780
ccaccgttcc tcactgcccc acaccttgca gggttctgcc gaagcccccc agtcatggtg     840
gctggagggc gtgtctttgt cctgccctgc atccaacaga tccagaggta ggcaagaagg     900
gaaccaggga aggggacct ccgtttctc tttttcctcc tcttcttact gtctgtccct     960
tcttttttccc ctaggatctc tctcaacaca ctgaccctca atgtcaagag tgaaaaggtt    1020
tacactcgcc atggggtccc catctcagtc actggcattg cccaggtgaa gctttcagag    1080
ccttttcccc acagtccact tccccatcac cctctctccc agacattaag acatcttctg    1140
gccacagtct tctcaaccct tgcctgcaga gaagttcctc tgctagtctc atcttttcca    1200
ggcaccccaa ggcacttgcc tcctcctcct ttctttccct gaaatggaag aagcatttct    1260
tagagggctc tcccttctct ctctgctttt tctctgactt catgagaccc ccaccacacc    1320
tttcctaccc ctactctggc tacaggtaaa aatccagggg cagaacaagg agatgttggc    1380
ggccgcctgt cagatgttcc tggggaagac ggaggctgag attgcccaca ttgccctgga    1440
gacgttagag ggccaccaga gggccatcat ggcccacatg actgtggagg ttggcctagg    1500
ggcagggaac catctggaag gatgtcaaaa tgaggggggc ccaaggccca cactagtctg    1560
tgagagacag tggatccaag agcatacatc ccggccgggc agggtggttc atgcctgtaa    1620
tcccagcact ttgggatgcc aaggtgggca gatcacttga ggtcaggagt tcgagaccag    1680
cctagccaac ctggtgaaac cccttctcta ctacaaatac aaaaattagc tgggtatggt    1740
gatgggtgtc ggtaatccca gctacttggg aggctgaggc aggagaatca cttgaaccca    1800
ggaggcagag gttgcagtga gcaaaaaaaa aaaaaaaaaa aaaacttaca tcccttctcc    1860
ccaccatcct gttatcacag gagatctata aggacaggca gaaattctca gaacaggttt    1920
tcaaagtggc ctcctcagac ctggtcaaca tgggcatcag tgtggttagc tacactctga    1980
aggacattca cgatgaccag gtaaaactag gcaattgatc cttccccact tccttgctcc    2040
catctcttaa gccctccaaa ggactaattt ctacatctct cccacaggac tatttgcact    2100
ctttggggaa ggctcgaaca gctcaagtcc aaaaagatgc acggattgga gaagcagagg    2160
ccaagagaga tgctgggatc cgggtgagag agatggggggt tgcttagtgg gaaagggggat    2220
agaagtggca caactgagaa gaagcagggg tgctgggtga gcagggaaaa tacatgaggc    2280
agaaagagaa ccttggtggg aagcaggctg tcaccgtggc ctttctcccc ctgccctgac    2340
atttcctacc tgatctctgc ttggacagga agctaaagcc aagcaggaaa aggtgtctgc    2400
tcagtacctg agtgagatcg agatggccaa ggcacagaga gattacgaac tgaagaaggc    2460
cgcctatgac atcgaggtca cacccgccg agcacaggct gacctggcct atcagcttca    2520
ggtcagagcc actgccaggc cactctctgc cccttcccca ttcctctcag ctgtccatc    2580
tcaggacacc actacactat ttctcatact ttaactttgg tcttattctg gctctccatc    2640
tctggaccaa ctcccccata tgaggagaga tttaaaagac tcagacgtta cagctgaaaa    2700
gctttaaaga aaaggccagc cgggtgtggt gactcatgcc tgtaatccca gcactttggg    2760
aggccaaggc gggctgattg cttgacctca ggagttcaag gccagcctgg caacatggt    2820
gaaaccgtgt ctatgcgaaa aatacaaaca ttagccaggc atggcagctc gggcctgtag    2880
tcacagctac ttggggtatg aggcaggagg attgcttgag ccaggatgcg caggttgcag    2940
tgagtcgaga tcacactact gcactccagc ctgggtgaca gtgaaatcct gtccaaaaaa    3000
gagaaaaaaa aggccacgcg cggtggctca tgcctgtaat cccagcactt tggtaggcca    3060
aggcaggtgg atcacaaggt caagagttcg agactagcct ggccaacata gtgaaaccct    3120
gtttctacta aaaatacaaa aattagccag gtatggtggc acgcacctgt agtcccagct    3180
```

```
acttgggagg ctgaggccgg agaattgctt gaacccggga gacagaggtt gcagtgagct   3240
gagaccacgc cattgcactc cagcctgggt gacagagtga gactccatct caaaaaaaga   3300
aaaaaaaaaa agagaaggcc aagaagggat atgatcaata aggctgatca tatgtttgga   3360
gcaggctgtg cccgtgcaaa ggcatctgac tgagaaagtg gatccgagct cagatccggc   3420
ccatgcccct ctaatcaagc agtgcattct gacatgggtc tgcatctaca cagaggaatt   3480
tctgatttgc acagaggcat gctatgggct agcggcagcc ctggttaatt aaaaaagggt   3540
atgaagaagg aaaacatgga cttggacatt gaatcctgca aagtgagata tgggcagccc   3600
ttgatattgc caggaagtat agttgatctt cattcttcat tattcgtatc tgagaatttg   3660
cctattcact aaaatgtatt ggtaacctca aaaggttacc aataaagtcg cagcactttc   3720
aggatctttt gcagacacgc acagtaccca ggtgaggttg atcaaggaga tgctctgctg   3780
ccttgtttca gctctcatac cgtaagccgt gttattttca cagtatattt actgccgtgt   3840
tttttgcatt tttgtgcttt ttattggtga attcactctt taaaatggcc cccaagcatc   3900
agtgctgtag tgctgtctag tgtcctttag tgcaagcggg ctatgatgtg ccttatggga   3960
gaaatacatg tgttaggtaa gcttcgttca tgcataagtt atactgctgt tagctgtgag   4020
ttcagtgtta atgaatcaac aatatatttt acataaggtg tctttaaaca gaaacacata   4080
taaagcaagg ctctatgttg atcagttgat gaaaatgttt tgaccagagg ctcacgggaa   4140
cctagcctgt atttcttcta ggaacaaatt aggtattaac taattcagca ttcatggcta   4200
ctttatagaa cagaactacc aagaacaatg aaaatcaact gtactttgag acctttaccc   4260
aaaggatagc aatattatgc attttgtttt tgccaagagt tggtacaggc tgaaagcata   4320
atgaaggtaa aaacatcttt tgttattatg ttaaattcct gggtgacttg acaggttgaa   4380
catggcatac agctttgcaa ctcaaactgt gttctaccca gcagcagctg cagcatcact   4440
gcgaagcttg ttagaaatac aaaattgcag gccctggccc tgaccagctg aatcagaacc   4500
tgcattttaa caaaatctca aggtgaattc ctaggtgatt tgtatgcaca ttggagtttg   4560
agtttgaaaa gggttaccat gatggaaact gctagcttgc agtgaagcta tggataaggt   4620
tcttaacctt ctaaacatga ccttacttgt ctgcagatta agggattgga ctggttggac   4680
tcttttcaac ttttatcagt ttctcgttat gcaccaggca gtgtgctagg tgttcaggaa   4740
agaaggattt attcaacaaa tatctgttaa gtgccttcta tgtgctagac accattttgg   4800
aggtgaggct ataaatatgg aggtgaggca gaaaagattc ctgcccttat gcagcttaca   4860
ttatgacaca ggaaacagct agtaagcaag taaatgacct tcccaggcta taattcttgt   4920
ttaggtgctg tgaaggaaat aaacagggtg atgtgaaaaa ctgtgggagg ggagttagta   4980
tattaggtta gcgggtggta gagaaagttt ctatgaggaa gtggtgtttg agatcagact   5040
tggagataag aaggaacaat gtacagttct gagccaagaa tattctagcc tgtgcttttt   5100
aagtagtcat acttaaaaag tggctgggcg cggtggttca tgcctgtaat cccaacactt   5160
tgagaggctg agacaggaag atcacttgag gccgggagtt tgagaccagt ctggccaaca   5220
gtgaaaccct gtctctacca aaaatacaaa aaatattagc cgggtgtggt ggtttgagcc   5280
tgcagttcca gctacttggg aggctgaggc gtgagaatcg cttgaatcca gaaggcacag   5340
tgagccgaga ttgcgccacc gcactccagc ctgggcgaca gagcgagact ccttctaaga   5400
tagatatatg gatggatgga tggacggatg gacggacgga cggacggacg gacggacgga   5460
cggacggacg gacaacagac agtcagtcag tcagtcagtc atacgtggct tgtggctagg   5520
caggggacca gtaagtgcaa aggctgtgag gtggagtcag aaaggaggtt tctgatctgg   5580
gggcgctggt gtgctgtgag tgaggaggaa aggcaggcag ggccagatca caaagggttt   5640
gtgtggtcac gatggagaca cagaagagaa ctgaaagcac agtggaaagc tattggagaa   5700
cttcaagcag aaaggtgcca tggtcttatt tatatttgta tagggatcag tctggttgcc   5760
ttgtggagaa cgggcaaaga gaggaagcaa ggccgggtgc ggtggttcac acctgtaatc   5820
ccaacacttt gggaggccga ggtgggcaga tcacgaggtc aggagatcga gaccatcctg   5880
gctaacatgg tgaaaccccg tctctactaa aaatacaaaa aattagctgg gcgtggtggc   5940
aggcacctgt agtcccagct actcgggagg ctgaggcaga agaatggcat aaacccggga   6000
ggcggagctt gcagtgagcc gagatcgcgc cactgcactc cagcctggat gacagagtga   6060
gactctgtct caaaaaaaaa agcaaaagat gagttgggct ctttttcaga gatgatggat   6120
taaacaaatg tagctaattt tactctctcc taaaacctca ctaaagccaa aatgattttt   6180
ttttttttttg agatggagtc tcgctctgtc gcccaggctg gagtgcagtg gcgcgatcta   6240
aaatgatttt ttttaaggta aagatagagg cttgtccaaa ggtagtgagt tatctcaatt   6300
gattgttcag tcagttacag attgaactcc ttgttctact ctttacctac ttctcactat   6360
tgcacttgat tagtctttct ttcttccttt ctttccttct cttctcttct ttcttctctc   6420
ctctcctctt tgagaccggg tcttactcgg tcccccaggc tagagtgcag cggtacaatc   6480
tcagctcact acagcttcaa ctgcctgggc tcaagcaata ctcccacctc agcttcctga   6540
gtagcttggt ctacaaacat atgccaccac gcctggctaa ttttttgtatg ttttgtagag   6600
acggaatttc accatgttgc ccaggctggt ctcaaactcc tgggctcaaa ggatccttcc   6660
cgcctcagcc tcccaaaatg ctaggattac aggcgtgagc caccatgccc agctgactag   6720
gctttaaaaa aaaaaaagat ggagaaaata ggaacggaaa ccagagcatc attttggaaa   6780
ctggaagtca gtagtaattg actaagcagg tatgacacag ctgagcttga aacctgcaaa   6840
```

2714

```
agggaaaaca atgaaatgat ctgaggctca ggagctggca gcacccagtg cttctccagc    6900
tgtggtagac tggttaaata agaggaacat gtgaaaagca ccttctcaga gcccctcact    6960
gcctctgggt aatggttcct gccctgctcc aacagacatc tggaggttta ttatcttatt    7020
tatctatttt atttatgttt tttttgagac agggtctctc actctgttgt ccaggctgga    7080
gtgcaggtgc agtggcgcag tctcggctca ctgcaacctc tgcctcctgg gttcaaatga    7140
ttctcgtgcc tcaccctccc aagtaatcct caactgggat tacaagtgcc caccaccacg    7200
cccaggtaat ttttgtattt tttttttttt ttttagtaga gaggggtttc accatgtcgg    7260
ccaggctggt ctcgaactgc tagcctcaag tgatccatcc acctcagcct cacaatgtgc    7320
tgggattaca ggtgtgagtt accatacctg ccattggaag tctattatct gaagagagta    7380
gactagagga tgtgatgggg gctggcccag cacaggtgag gacctagata gtttaccagt    7440
aacaggggca tgaaatgact ataactttca tgaatgctaa atactgagag ccaaccccaa    7500
ccccaacccc ctcaacccca ctcagctccc agaacttcca tcttccaaaa aagagatcag    7560
aagactgctc tggggaacat gaccaatcca aaaagaaata acttaaaatc ctgaatcaga    7620
tgtttctccg tacatggcct atccagatca ccgtagggtg aagctcaaag tcagcaagcc  · 7680
tcacccacat actcagagct tcctttcagt gttgagacct tcttccctct gagcagatga    7740
caaaggagtt tgaaaccagc ctggccaaca tggtgaaacc ccgtctctac taaaaacaca    7800
aaaattagct gaaatggtga ctgtaatccc agctactcag gaggctgagg caggagaatc    7860
acttgaatcc gggaggcaga ggttgcagtg agctgagatc gtgccatttc attccagcct    7920
gggcaacaga gcaagccatc acagatttgg gagcaaccaa gaaagccagg acagggtat    7980
gcttggtaac ctggcaagag ctgacaaagg ggaaaaataa aaccccacag aaagaagcag    8040
ggaagtaagg gaaagggact aataagagtc aagcagggcc aggggtgttg gctcatgcct    8100
gtaatcccag cactttggga ggccaaggtg ggtggctcac gaggtcagga gatcgagacc    8160
atcctggcta acacggtgaa accccaactc tataaaaata caaaaaatta gccaggcgtg    8220
gtggtacgcg cctgcagtcc cagctactcg ggaggctgag gcaggagaat cacttgaacc    8280
tgggaggcag aggttgcagt gagatgagat catgccactg cactccagcc tgggtgacag    8340
agcgagactc catctccaaa aaaaaaaaaa aaagtcaagc acatgcaaat gtggcatgac    8400
ttattgggag cagaaacatt ctgagaaaaa ttatataaaa atgaggtttt agattgaaat    8460
ggtctactaa gtgcccaatg caatgaatga aaaatatata cattgaaaca taacactgtg    8520
aaacttaaga atgctgagga caaaaaatat gaaagcttct agagagagag agatctcaaa    8580
gaggcaggct tcaaaatgac ttcagattcc tttttttttt tttttttttt ttttcagag    8640
acagggtctt gctctgttgt ccaatacagt ggcataaaca aggctcactg taacctcaac    8700
ctcccaggct caagtgattc tcccacctca gcctccccag tagttgggac cacaggggca    8760
caccaccacg cccagctaat ttttaaattt ttttctagag gtgagatctt gccatattgc    8820
acaggctggt cttgaactcc tgggttcaag ttatcctccc accttagcct cccaaagtgc    8880
tgggattata ggcatgagcc actgcatcaa gcccagcttt cttttctttt tttttttttt    8940
tgagatggat ttttgctctt gtcacccagg ctggagtgca atggcgtgat ctcagctact    9000
gcaacctctg cctcctgggt tcaagcgatt ctcctacctc agcttcccaa gtagctggga    9060
ctacaggtat gtgccaccat tgctggctaa ttttgtatt tttagtagag acggggtttc    9120
accacgttga ccaggctggt catgaactcc tgacctcagg tgatctgccc acctcagcct    9180
cccaaagtgc tgggatgaca ggcatgagcc accatgactg gcccaagccc agatttctta    9240
aaaagctaga aaaccatgga ggaatgcctt cagaattctg atggaaagtt aatcccaaca    9300
tagcagcctg ctttcagcct aactggtatt aaaatagaag ggtagaggcc gggtgcagtg    9360
gctaacgcct gtaatcccag cactttggga agccgaagca ggtggatcac ctgagataag    9420
gagttcaaga ccagcctggc caatgtggtg aaccccatc tctattaaaa acacaaaaat    9480
tagctgagcg tggtggcagg cacctataat cccagataca tgggaggctg aggcaggaga    9540
attgcttgaa cctgggagat ggagattgca gtgagccaag actgcgtcac tgcactccag    9600
cctgggtgcc aagagcgaaa ttccatctca aaaaaggta gaataaaaat ctcagagaaa    9660
gcaagacctc agaaaaaata ttgtctttat attctttctg aggaagcttc tggaggttga    9720
gtttcaccaa aaggtgggca tagacaggaa ggaaaaagaa acagacaaat ggttgcctaa    9780
gggacacagg agagaggtga tcctgcacac cggtgtagag ggcaacgagg ccagtttgga    9840
acgggtttga aaatttaggg tgaaagacag tacagagtgc cgtctccaga gctatgcttc    9900
tctctggagt gaacagatgg gcccggggga aggtaggagg caggggaagc atcacatgta    9960
ttgatgagac ctacaatgat gatggtgcat ggctgagcct gagcaatggg acaacgaagg   10020
catgtgttct ggctgggtgt gatggcacat gcctgtaacc ccaacacttt gggaagccga   10080
ggcaggtgga tcacgtgagc ccaggagttt gagatcagcc tgggcaacat agaaaaccct   10140
gtctctacaa aaagtacaaa aaatagccgg gtgtgctggt tcacacctgt agtcccagct   10200
actctagagg gggaggcggg aggatcatct gagcccaggc aggtcaaggc tgcagtgagc   10260
catgattacg ccattgaacc tgggtgacag agtaagatga tgtctcaaaa agaaaaaaaa   10320
aatgtgttcc ttgcctggca cctctcctca ctagcatctt gataagagcc ttctgattcc   10380
ctcacactgc aaggaataag aagatgaaat ctaggctggg tgcgatggct catgcctgta   10440
atcccagcac tttgggaaac tgaggcgggt ggatcacttg agatcaggag tttgagacca   10500
```

2715

```
gcctggccaa catggtgaaa ccccgtctct actaaaaaaa atacaaaaat tagccagaca  10560
tggtagcaca tgcctgtagt cccagctact tgagaggctg aggcaagaga ttagcttgaa  10620
cctgggaggt gaaggttgca ctgagctgat cgtgccactg cactccagcc tgggcaatag  10680
agcgaaactg cctcaaaaaa aaagaaagaa atctgcctaa ataagaggaa ttctatgaat  10740
acacacattc ttgtagatgt tcagagtatc cctggaagga tacacaagaa gctggtcttg  10800
gtggtttctc tgggaaaggg acccaggtgg tttggagaat gaggaagaag cctcgtggtt  10860
cacttttttt tctgttaaat ctgcaccatg tgcaaaagac aaaaaagatc acctgtcccc  10920
accccacaa aaaataagtc agctattgca gtagcctagg ctagcactaa ggttatcgca  10980
gcaacagtgg ggggatttga gcaagactgg agatagcaga aagccaacat gtgctcagtg  11040
ccctcaaggt atttatactc tagaagggg cacacgtggg aaaaatagat taaacggggg  11100
ctcatcagag aaacactgga ctccactgga ctggccaagc agacaggagg gaacccacct  11160
tcatgcacct gctccttttt tttttttttt tttttggag atggagtctt actctgttgc  11220
ccagggtgga gtgcagtggc gtgatcccag ctcactgcaa ccttcgcctc ccaggttcaa  11280
gcaattctcc tgcctcagcc tcccgggtgg ctgggactac aggcattcgc caccacacct  11340
ggctaatttt ttgtatttta gtagagacag ggtttcacca tgttggccag gctggtctcg  11400
agctcctgaa ctcaggcaat ccaccctcct tggcctccca aagcgctagg attacaggcg  11460
tgagccaccg cgcccggcca ccggctccta tttttatatc ccactctgga gctctggttc  11520
ccgggcactt gctcttcacc tctgactcag agcgtgaacc tgacttcacc ctcctaccca  11580
ggtggccaag actaagcagc agattgagga gcagcgggtg caggtgcagg tggtggagcg  11640
ggcccagcag gtggcagtgc aggagcagga gatcgcccgg cgggagaagg agctggaggc  11700
ccgggtgcgg aagccagcgg aagcggagcg ctacaagctg gagcgcctag ccgaggcaga  11760
gaagtaaatg tcccctccct gaccctgcct agctcacttg ccacctaggc accccaagat  11820
ggagtgctga gccttcacc acctggactc ctatggattt caggtttcag gagcgtctgc  11880
ctctgcagca ctgggccttt ctcctgggag taagggctgc tgggctccac cctccacttc  11940
ccttctgtcc acaggtccca actaattatg caggcggagg cagaagccgc gtctgtgcgg  12000
gtgagttaag aggcagttcc atgctggctt gtggagaggg tgggggttgc tgcttgatcg  12060
gggatttctt gttcttaatg atttccgtca atctcacaag catccttaac cctcagatgc  12120
gtggggaagc tgaggccttt gccatagggg cccgagcccg agccgaggct gagcagatgg  12180
ccaagaaggc agaagccttc cagctgtacc aagaggctgc tcagctggac atgctgctag  12240
agaagctgcc ccaggtctgg aggtcatgtg ggcaccaaga aaggaggaaa tagaaccagg  12300
gactaagggg tggggtgtag tgaggggctt agggagaaac agcctagggg gactctaaat  12360
taggggtggg aattattagt gaccaaagtg aggaaggatg atcagtggaa cgaggacctt  12420
aaaacccaga gtaagttgtt ttatgaggaa tgtggtcaga tcatgggcac tgagtgggtg  12480
tctctctcct gccaggtggc agaggagatc agtggtccct tgacttcagc caataagatc  12540
acactggtgt ccagcggcag tgggaccatg ggggcagcca aagtgactgg ggaagtactg  12600
gacattctaa ctcgcctgcc agagagtgtg gaaagactca caggcgtgag catctcccag  12660
gtgaggtctc aggttggagc tgaggagaat tgctaggttc ctgtgttgtg tgacacagta  12720
tgcctagcat ttaaccagca tccaggcctg ggagtcattg atgtttatta atcactttct  12780
gtgtgccaga cacagtgcta agcttctaca taaatgagtt gttttaaatc aaactaccat  12840
tagggtatat aggattttac aaagtccaga aactcaacat ccagcatgtt cctactcatt  12900
ctgctagtgc agctggagtg aaatccaggt cgactgtctc tgcaacctgt gcttgtggtc  12960
accccactag tatagggaac tagttgcagc ctattgacag ttaattaatt ctagggcata  13020
tcactgcttt tctcagcgcc ccagttaatt cacctgtaga tcatggtaga agtcagcaaa  13080
caggctctgg aaccactgtt ttgttgcgaa tcctagctac aatgcctgct agctgtaatc  13140
ttggacaagt aatcaacctc tctatacctg tttcctcatc ttaaaattgg gttaataatt  13200
agaaactacc ctgttgaatt gttgaggggc tcgagcaaat atttgcagtg tttagaatag  13260
tgcctggtat atagtaagca ttatgtgtat gttaaagaaa tggggccagg tgcagtggct  13320
tacgcctgta atcccagcac tttgggaggc tgaggcaggc agatcacctg aggttaggag  13380
ttggagacca gcctggccaa catggtgaaa caccatcttt actaaaaata caaaaaaaa  13440
ttagccaggc ttggtggtgc atgcctgtaa tctcagctac tcgggaagct gaggcaggag  13500
aattgctgga acccaggagc cgaaggttgc agtgagctga gatcacacca ctgcactcca  13560
gcctgggtga cagaataagg ctctatctca aaaaaaaaaa aaaattccag gcgcggtagc  13620
tcatgcctgt aatcccagca ctttgggagg ctgaggcggg cggatcacga ggtcaggaga  13680
ttgagaccat cctggctaac acagtgaaac cccgtctcta ctaaaaatac aaaacagccg  13740
ggcgtggcgg tgtgtgcctg tagtcccagc tgctggggag gctgaggcag gagaatggtg  13800
tgaacctggg aggcagagct tgcagtgagc cgagatagca ccactgcact ccatcctagg  13860
caacagagca agactctgtc tcaaaaaaaa aaagagaaag aaatgcatat tcgggctggg  13920
tgctgtggct cacacttgta atcccagaac tttgggaggc cagggtggac gatcagctga  13980
ggtcagaagt ttgagatcac cctggccaac atggtgatac cccatctcta ccaaaaatac  14040
aaaaattagc tgggtatggt ggcgcatacc tgtaatccca gctactcggg aggctgaggc  14100
aggagaatca cttgaactca ggaggcggag ctgcagtaa gccaagatcg caccactgca  14160
```

2716

```
ttctagcctg ggtgatagag tgagattccg tctcaaaaaa aaaaagaaaa aaaaaaagcg    14220
tatgtaaata aaagcactgg atcataccaa tgaccttcaa gctgggttcc ttggagcctc    14280
ctggaggcct gcagtagaat attcagagct aaggagagtg tgcaaacaag gctctgcccc    14340
ctctcctctc ttcagtgatt tattgtatgt gggtcctgat gtctttgttt ggggaaacag    14400
gtggtagggc accagaaaga accctggccg tgtgtgttct gcctatagcc cattcgtcta    14460
aactgggggcc cgggagagta ggggcctcag cctcccgaat gttcccaagt gtcatctact    14520
gttgtctttt tgccaggtga atcacaagcc tttgagaaca gcctgagcct tcagccctca    14580
cagatgccca gcctcatagc tgaagttgcc tgaatgatcc tcctgttgca tgtaacccac    14640
tggcctccct gagcatgtcc attgacagtg aggtcccacc cctcatctct ccttgccaaa    14700
tagtttgtgc cttgtcttga aggggggttgc tcccctgccc aacctcacac tgctatgatt    14760
gccaactcca gcggtcccat gtcagccttc tgatgatccc actccacccc acctcaactt    14820
atttaacttc ctaattaaat cagactgttt gagcctgttg tctagaatat tttcctgacc    14880
aagtctgagg gatgggctgg aggttttcaa ctttgctacc caaataaatt gctgtaagta    14940
agtactaata aaacagaagc aactggaaat taatgcttgg cccggcacag tggctcatgc    15000
ctgtaatccc agcactttgg gaggccaagg caggcagatc atctgaggtc aggagttcaa    15060
gaccagcctg gccaacatga cgaaaccttg tctctaccaa aaatacaaaa attagccagg    15120
cagggtgaaa catgccaagt agtagtccca gctacttggg aggctgaggc aggagaatta    15180
cttgaacctg ggaagcagag gttgcagtga gccaagatcg caccactgca ctctagccta    15240
ggtgacagag tgagactgtt tcaaaa                                         15266


<210> 5794
<211> 473
<212> DNA
<213> Homo sapiens

<400> 5794
gccagatcct gtctcaaaac aaaaaaaaaa agttaaattc tgtgtccatg agcagctgtc      60
tgtaaggaag ttatggaaat gtgaatctgc tttaagttga gtaattacca ttactgtaac     120
atttgtataa tgtctcacaa tttagaatgt ttgtcccata aatttggttg tttgacttac     180
agcaaggggc aaatctgggt ggctgctaac ctattgcctt tgtatttgtg gccctctgca     240
ccagccttta tgtgaatatt tctgcacgct cctaagagag tagttttgct gaactgtccc     300
tatacagtct ttgcaccttt actgtgtaca tgtgtgttgg taggtgtacg tggtatgttt     360
tcctttttttt ccaggattgc attctttta tggctgaata atatttaatt gtgtattgtt     420
gttgttgttg ttgttatttt atagtgacaa ggtctcacta tgttgcccag gct            473


<210> 5795
<211> 15271
<212> DNA
<213> Homo sapiens

<400> 5795
gcagcaacgg ggtgcggcag ggtggggaac gcgggagcgg ggccagctcc caggaaagct      60
ggtctgcgag cggcccctgc ccggctccca ggtccctgcg cgaccccgcc cttcccgaga     120
ccccagccgg gctgccgccc gcgtcccgga aggtgagtgg gggaggggag atggagcctg     180
gggctgccga gaagcaggga gagaggggaa aggtctgcag gcctctgggc gcggggggacc     240
tttatcaaag ggagcggcga ggggaaggga gggaccatac gcaggcggag aagaggtagc     300
tggggatctt aaggattttg tagggaaaag ccttagcgga cccatgggtg tagaagggac     360
gggccgtggc ggatgcagac tgggagggcc tgacgggaaa gggaaaggat gggcccctgt     420
ggacgccaca gcgcgccttc cccatccgca aaggctttcc ctccctctcc tccagctcca     480
gcctgaacca tgtttttcac ttgtggccca aatgaggcca tggtggtctc cggtaagtac     540
tgttgttccc ttcccagcca gtgacccag aaccctgtg agtctggcct ctgcccttc      600
tccctctccc taccaacttc ccagcaccag acttctgccc cttgatggcc acgaactgcc     660
cagtttgatt cccaccattc caaggcccag actgcttccc ctccagctcc cagattctct     720
cctgtggggtt gctgtccccct caccccgcc agttcctcag tcttccacat tcaagctctg     780
ccaccgttcc tcactgcccc acaccttgca gggttctgcc gaagcccccc agtcatggtg     840
gctggaggc gtgtctttgt cctgccctgc atccaacaga tccagaggta ggcaagaagg     900
gaaccaggga aggggggacct ccgttttctc tttttcctcc tcttcttact gtctgtccct     960
tctttttccc ctaggatctc tctcaacaca ctgaccctca atgtcaagag tgaaaaggtt    1020
tacactcgcc atggggtccc catctcagtc actggcattg cccaggtgaa gctttcagag    1080
```

                                 2717

```
ccttttcccc  acagtccact  tccccatcac  cctctctccc  agacattaag  acatcttctg  1140
gccacagtct  tctcaaccct  tgcctgcaga  gaagttcctc  tgctagtctc  atcttttcca  1200
ggcacccaa   ggcacttgcc  tcctcctcct  ttctttccct  gaaatggaag  aagcatttct  1260
tagagggctc  tcccttctct  ctctgctttt  tctctgactt  catgagaccc  ccaccacacc  1320
tttcctaccc  ctactctggc  tacaggtaaa  aatccagggg  cagaacaagg  agatgttggc  1380
ggccgcctgt  cagatgttcc  tggggaagac  ggaggctgag  attgcccaca  ttgccctgga  1440
gacgttagag  ggccaccaga  gggccatcat  ggcccacatg  actgtggagg  ttggcctagg  1500
ggcagggaac  catctggaag  gatgtcaaaa  tgaggggggc  ccaaggccca  cactagtctg  1560
tgagagacag  tggatccaag  agcatacatc  ccggccgggc  agggtggttc  atgcctgtaa  1620
tcccagcact  ttgggatgcc  aaggtgggca  gatcacttga  ggtcaggagt  tcgagaccag  1680
cctagccaac  ctggtgaaac  cccttctcta  ctacaaatac  aaaaattagc  tgggtatggt  1740
gatgggtgtc  ggtaatccca  gctacttggg  aggctgaggc  aggagaatca  cttgaaccca  1800
ggaggcagag  gttgcagtga  gcaaaaaaaa  aaaaaaaaaa  aaaacttaca  tcccttctcc  1860
ccaccatcct  gttatcacag  gagatctata  aggacaggca  gaaattctca  gaacaggttt  1920
tcaaagtggc  ctcctcagac  ctggtcaaca  tgggcatcag  tgtggttagc  tacactctga  1980
aggacattca  cgatgaccag  gtaaaactag  gcaattgatc  cttccccact  tccttgctcc  2040
catctcttaa  gccctccaaa  ggactaattt  ctacatctct  cccacaggac  tatttgcact  2100
ctttggggaa  ggctcgaaca  gctcaagtcc  aaaaagatgc  acggattgga  gaagcagagg  2160
ccaagagaga  tgctgggatc  cgggtgagag  agatgggggt  tgcttagtgg  gaaaggggat  2220
agaagtggca  caactgagaa  gaagcagggg  tgctgggtga  gcagggaaaa  tacatgaggc  2280
agaaagagaa  ccttggtggg  aagcaggctg  tcaccgtggc  ctttctcccc  ctgccctgac  2340
atttcctacc  tgatctctgc  ttggacagga  agctaaagcc  aagcaggaaa  aggtgtctgc  2400
tcagtacctg  agtgagatcg  agatggccaa  ggcacagaga  gattacgaac  tgaagaaggc  2460
cgcctatgac  atcgaggtca  acacccgccg  agcacaggct  gacctggcct  atcagcttca  2520
ggtcagagcc  actgccaggc  cactctctgc  cccttcccca  ttcctctcag  gctgtccatc  2580
tcaggacacc  actacactat  ttctcatact  ttaactttgg  tcttattctg  gctctccatc  2640
tctggaccaa  ctcccccata  tgaggagaga  tttaaaagac  tcagacgtta  cagctgaaaa  2700
gctttaaaga  aaaggccagc  cgggtgtggt  gactcatgcc  tgtaatccca  gcactttggg  2760
aggccaaggc  gggctgattg  cttgacctca  ggagttcaag  gccagcctgg  gcaacatggt  2820
gaaaccgtgt  ctatgcgaaa  aatacaaaca  ttagccaggc  atggcagctc  gggcctgtag  2880
tcacagctac  ttggggtatg  aggcaggagg  attgcttgag  ccaggatgcg  caggttgcag  2940
tgagtcgaga  tcacactact  gcactccagc  ctgggtgaca  gtgaaatcct  gtccaaaaaa  3000
gagaaaaaaa  aggccacgcg  cggtggctca  tgcctgtaat  cccagcactt  ggtaggcca   3060
aggcaggtgg  atcacaaggt  caagagttcg  agactagcct  ggccaacata  gtgaaaccct  3120
gtttctacta  aaaatacaaa  aattagccag  gtatggtggc  acgcacctgt  agtcccagct  3180
acttgggagg  ctgaggccgg  agaattgctt  gaacccggga  gacagaggtt  gcagtgagct  3240
gagaccacgc  cattgcactc  cagcctgggt  gacagagtga  gactccatct  caaaaaaaga  3300
aaaaaaaaa   agagaaggcc  aagaagggat  atgatcaata  aggctgatca  tatgtttgga  3360
gcaggctgtg  cccgtgcaaa  ggcatctgac  tgagaaagtg  gatccgagct  cagatccggc  3420
ccatgcccct  ctaatcaagc  agtgcattct  gacatgggtc  tgcatctaca  cagaggaatt  3480
tctgatttgc  acagaggcat  gctatgggct  agcggcagcc  ctggttaatt  aaaaaagggt  3540
atgaagaagg  aaaacatgga  cttggacatt  gaatcctgca  aagtgagata  tgggcagccc  3600
ttgatattgc  caggaagtat  agttgatctt  cattcttcat  tattcgtatc  tgagaatttg  3660
cctattcact  aaaaatgtatt  ggtaacctca  aaaggttacc  aataaagtcg  cagcactttc  3720
aggatctttt  gcagacacgc  acagtaccca  ggtgaggttg  atcaaggaga  tgctctgctg  3780
ccttgtttca  gctctcatac  cgtaagccgt  gttattttca  cagtatattt  actgccgtgt  3840
ttttgcatt   tttgtgctttt  ttattggtga  attcactctt  taaaatggcc  cccaagcatc  3900
agtgctgtag  tgctgtctag  tgtcctttag  tgcaagcggg  ctatgatgtg  ccttatggga  3960
gaaatacatg  tgttaggtaa  gcttcgttca  tgcataagtt  atactgctgt  tagctgtgag  4020
ttcagtgtta  atgaatcaac  aatatatttt  acataaggtg  tctttaaaca  gaaacacata  4080
taaagcaagg  ctctatgttg  atcagttgat  gaaaatgttt  tgaccagagg  ctcacgggaa  4140
cctagcctgt  atttcttcta  ggaacaaatt  aggtattaac  taattcagca  ttcatggcta  4200
ctttatagaa  cagaactacc  aagaacaatg  aaaatcaact  gtactttgag  acctttaccc  4260
aaaggatagc  aatattatgc  attttgtttt  tgccaagagt  tggtacaggc  tgaaagcata  4320
atgaaggtaa  aaacatcttt  tgttattatg  ttaaattcct  gggtgacttg  acaggttgaa  4380
catggcatac  agctttgcaa  ctcaaactgt  gttctaccca  gcagcagctg  cagcatcact  4440
gctaagcttg  ttagaaatac  aaaattgcag  gccctggccc  tgaccagctg  aatcagaacc  4500
tgcattttaa  caaaatctca  aggtgaattc  ctaggtgatt  tgtatgcaca  ttggagtttg  4560
agtttgaaaa  gggttaccat  gatggaaact  gctagcttgc  agtgaagcta  tggataaggt  4620
tcttaacctt  ctaaacatga  ccttacttgt  ctgcagatta  agggattgga  ctggttggac  4680
tcttttcaac  ttttatcagt  ttctcgttat  gcaccaggca  gtgtgctagg  tgttcaggaa  4740
```

2718

```
agaaggattt attcaacaaa tatctgttaa gtgccttcta tgtgctagac accatttgg    4800
aggtgaggct ataaatatgg aggtgaggca gaaaagattc ctgcccttat gcagcttaca    4860
ttatgacaca ggaaacagct agtaagcaag taaatgacct tcccaggcta taattcttgt    4920
ttaggtgctg tgaaggaaat aaacagggtg atgtgaaaaa ctgtgggagg ggagttagta    4980
tattaggtta gcgggtggta gagaaagttt ctatgaggaa gtggtgtttg agatcagact    5040
tggagataag aaggaacaat gtacagttct gagccaagaa tattctagcc tgtgcttttt    5100
aagtagtcat acttaaaaag tggctgggcg cggtggttca tgcctgtaat cccaacactt    5160
tgagaggctg agacaggaag atcacttgag gccgggagtt tgagaccagt ctggccaaca    5220
gtgaaaccct gtctctacca aaaatacaaa aaatattagc cgggtgtggt ggtttgagcc    5280
tgcagttcca gctacttggg aggctgaggc gtgagaatcg cttgaatcca gaaggcacag    5340
tgagccgaga ttgcgccacc gcactccagc ctgggcgaca gagcgagact ccttctaaga    5400
tagatatatg gatggatgga tggacggatg gacggatgga cggacggacg ggcggacgga    5460
cggacggacg gacggacgac agacagtcag tcagtcagtc agtcatacgt ggcttgtggc    5520
taggcagggg accagtaagt gcaaaggctg tgaggtggag tcagaaagga ggtttctgat    5580
ctggggcgc tggtgtgctg tgagtgagga ggaaaggcag gcaggccag atcacaaagg    5640
gtttgtgtgg tcacgatgga gacacagaag agaactgaaa gcacagtgga aagctattgg    5700
agaacttcaa gcagaaaggt gccatggtct tatttatatt tgtataggga tcagtctggt    5760
tgccttgtgg agaacgggca aagagaggaa gcaaggccgg gtgcggtggt tcacacctgt    5820
aatcccaaca ctttgggagg ccgaggtggg cagatcacga ggtcaggaga tcgagaccat    5880
cctggctaac atggtgaaac cccgtctcta ctaaaaatac aaaaaattag ctgggcgtgg    5940
tggcaggcac ctgtagtccc agctactcgg gaggctgagg cagaagaatg gcataaaccc    6000
gggaggcgga gcttgcagtg agccgagatc gcgccactgc actccagcct ggatgacaga    6060
gtgagactct gtctcaaaaa aaaaagcaaa agatgagttg ggctctttt cagagatgat    6120
ggattaaaca aatgtagcta attttactct ctcctaaaac ctcactaaag ccaaaatgat    6180
ttttttttt tttgagatgg agtctcgctc tgtcgcccag gctggagtgc agtggcgcga    6240
tctaaaatga ttttttttaa ggtaaagata gaggcttgtc caaaggtagt gagttatctc    6300
aattgattgt tcagtcagtt acagattgaa ctccttgttc tactctttac ctacttctca    6360
ctattgcact tgattagtct ttctttcttc ctttctttcc ttctcttctc ttctttcttc    6420
tctcctctcc tctttgagac cgggtcttac tcggtccccc aggctagagt gcagcggtac    6480
aatctcagct cactacagct tcaactgcct gggctcaagc aatactccca cctcagcttc    6540
ctgagtagct tggtctacaa acatatgcca ccacgcctgg ctaattttg tatgttttgt    6600
agagacggaa tttcaccatg ttgcccaggc tggtctcaaa ctcctgggct caaaggatcc    6660
ttcccgcctc agcctcccaa aatgctagga ttacaggcgt gagccaccat gcccagctga    6720
ctaggcttta aaaaaaaaaa agatggagaa aataggaacg gaaaccagag catcattttg    6780
gaaactggaa gtcagtagta attgactaag caggtatgac acagctgagc ttgaaacctg    6840
caaaagggaa aacaatgaaa tgatctgagg ctcaggagct ggcagcaccc agtgcttctc    6900
cagctgtggt agactggtta aataagagga acatgtgaaa agcaccttct cagagcccct    6960
cactgcctct gggtaatggt tcctgccctg ctccaacaga catctggagg tttattatct    7020
tatttatcta ttttatttat gttttttttg agacagggtc tctcactctg ttgtccaggc    7080
tggagtgcag gtgcagtggc gcagtctcgg ctcactgcaa cctctgcctc ctgggttcaa    7140
atgattctcg tgcctcaccc tcccaagtaa tcctcaactg ggattacaag tgcccaccac    7200
cacgcccagg taattttgt attttttttt ttttttttag tagagagggg tttcaccatg    7260
tcggccaggc tggtctcgaa ctgctagcct caagtgatcc atccacctca gcctcacaat    7320
gtgctgggat tacaggtgtg agttaccata cctgccattg gaagtctatt atctgaagag    7380
agtagactag aggatgtgat gggggctggc ccagcacagg tgaggaccta gatagtttac    7440
cagtaacagg ggcatgaaat gactataact ttcatgaatg ctaaatactg agagccaacc·    7500
ccaaccccaa cccctcaac cccactcagc tcccagaact tccatcttcc aaaaaagaga    7560
tcagaagact gctctgggga acatgaccaa tccaaaaga aataacttaa aatcctgaat    7620
cagatgtttc tccgtacatg gcctatccag atcaccgtag ggtgaagctc aaagtcagca    7680
agcctcaccc acatactcag agcttccttt cagtgttgag accttcttcc ctctgagcag    7740
atgacaaagg agtttgaaac cagcctggcc aacatggtga aaccccgtct ctactaaaaa    7800
cacaaaaatt agctgaaatg gtgactgtaa tcccagctac tcaggaggct gaggcaggag    7860
aatcacttga atccgggagg cagaggttgc agtgagctga gatcgtgcca tttcattcca    7920
gcctgggcaa cagagcaagc catcacagat ttgggagcaa ccaagaaagc cagggacagg    7980
gtatgcttgg taacctggca agagctgaca aagggaaaa ataaaacccc acagaaagaa    8040
gcagggaagt aagggaaagg gactaataag agtcaagcag ggccaggggt gttggctcat    8100
gcctgtaatc ccagcacttt gggaggccaa ggtgggtggc tcacgaggtc aggagatcga    8160
gaccatcctg gctaacacgg tgaaacccca actctataaa aatacaaaaa attagccagg    8220
cgtggtggta cgcgcctgca gtcccagcta ctcgggaggc tgaggcagga gaatcacttg    8280
aacctgggag gcagaggttg cagtgagatg agatcatgcc actgcactcc agcctgggtg    8340
acagagcgag actccatctc caaaaaaaaa aaaaaagtc aagcacatgc aaatgtggca    8400
```

```
tgacttattg ggagcagaaa cattctgaga aaaattatat aaaaatgagg ttttagattg   8460
aaatggtcta ctaagtgccc aatgcaatga atgaaaaata tatacattga aacataacac   8520
tgtgaaactt aagaatgctg aggacaaaaa atatgaaagc ttctagagag agagagatct   8580
caaagaggca ggcttcaaaa tgacttcaga ttcctttttt tttttttttt tttttttttt   8640
cagagacagg gtcttgctct gttgtccaat acagtggcat aaacaaggct cactgtaacc   8700
tcaacctccc aggctcaagt gattctccca cctcagcctc cccagtagtt gggaccacag   8760
gggcacacca ccacgcccag ctaattttta aatttttttc tagaggtgag atcttgccat   8820
attgcacagg ctggtcttga actcctgggt tcaagttatc ctcccacctt agcctcccaa   8880
agtgctggga ttataggcat gagccactgc atcaagccca gctttctttt tttttttttt   8940
ttttttgaga tggatttttg ctcttgtcac ccaggctgga gtgcaatggc gtgatctcag   9000
ctactgcaac ctctgcctcc tgggttcaag cgattctcct acctcagctt cccaagtagc   9060
tgggactaca ggtatgtgcc accattgctg gctaattttt gtatttttag tagagacggg   9120
gtttcaccac gttgaccagg ctggtcatga actcctgacc tcaggtgatc tgcccacctc   9180
agcctcccaa agtgctggga tgacaggcat gagccaccat gactggccca gcccagatt   9240
tcttaaaaag ctagaaaacc atggaggaat gccttcagaa ttctgatgga aagttaatcc   9300
caacatagca gcctgctttc agcctaactg gtattaaaat agaagggtag aggccgggtg   9360
cagtggctaa cgcctgtaat cccagcactt tgggaagccg aagcaggtgg atcacctgag   9420
ataaggagtt caagaccagc ctggccaatg tggtggaacc ccatctctat taaaaacaca   9480
aaaattagct gagcgtggtg gcaggcacct ataatcccag atacatggga ggctgaggca   9540
ggagaattgc ttgaacctgg gagatggaga ttgcagtgag ccaagactgc gtcactgcac   9600
tccagcctgg gtgccaagag cgaaattcca tctcaaaaaa aggtagaata aaaatctcag   9660
agaaagcaag acctcagaaa aaatattgtc tttatattct ttctgaggaa gcttctggag   9720
gttgagtttc accaaaaggt gggcatagac aggaaggaaa aagaaacaga caaatggttg   9780
cctaagggac acaggagaga ggtgatcctg cacaccggtg tagagggcaa cgaggccagt   9840
ttggaacggg tttgaaaatt tagggtgaaa gacagtacag agtgccgtct ccagagctat   9900
gcttctctct ggagtgaaca gatgggcccg ggggaaggta ggaggcaggg gaagcatcac   9960
atgtattgat gagacctaca atgatgatgg tgcatggctg agcctgagca atgggacaac  10020
gaaggcatgt gttctggctg ggtgtgatgg cacatgcctg taaccccaac actttgggaa  10080
gccgaggcag gtggatcacg tgagcccagg agtttgagat cagcctgggc aacatagaaa  10140
accctgtctc tacaaaaagt acaaaaaata gccgggtgtg ctggttcaca cctgtagtcc  10200
cagctactct agagggggag gcgggaggat catctgagcc caggcaggtc aaggctgcag  10260
tgagccatga ttacgccatt gaacctgggt gacagagtaa gatgatgtct caaaaagaaa  10320
aaaaaatgt gttccttgcc tggcacctct cctcactagc atcttgataa gagccttctg  10380
attccctcac actgcaagga ataagaagat gaaatctagg ctgggtgcga tggctcatgc  10440
ctgtaatccc agcactttgg gaaactgagg cggatggatc acttgagatc aggagtttga  10500
gaccagcctg gccaacatgg tgaaacccg tctctactaa aaaaaataca aaaattagcc  10560
agacatggta gcacatgcct gtagtcccag ctacttgaga ggctgaggca agagattagc  10620
ttgaacctgg gaggtgaagg ttgcactgag ctgatcgtgc cactgcactc cagcctgggc  10680
aatagagcga aactgcctca aaaaaaaga aagaaatctg cctaaataag aggaattcta  10740
tgaatacaca cattcttgta gatgttcaga gtatccctgg aaggatacac aagaagctgg  10800
tcttggtggt ttctctggga aagggaccca ggtggtttgg agaatgagga agaagcctcg  10860
tggttcactt ttttttctgt taaatctgca ccatgtgcaa aagacaaaaa agatcacctg  10920
tccccacccc cacaaaaaat aagtcagcta ttgcagtagc ctaggctagc actaaggtta  10980
tcgcagcaac agtggggga tttgagcaag actggagata gcagaaagcc aacatgtgct  11040
cagtgccctc aaggtattta tactctagaa ggggcacac gtgggaaaaa tagattaaac  11100
ggggctcat cagagaaaca ctggactcca ctggactggc caagcagaca ggagggaacc  11160
caccttcatg cacctgctcc tttttttttt tttttttttt tggagatgga gtcttactct  11220
gttgcccagg gtggagtgca gtggcgtgat cccagctcac tgcaaccttc gcctcccagg  11280
ttcaagcaat tctcctgcct cagcctcccg ggtggctggg actacaggca ttcgccacca  11340
cacctggcta attttttgta ttttagtaga gacagggttt caccatgttg gccaggctgg  11400
tctcgagctc ctgaactcag gcaatccacc ctccttggcc tcccaaagcg ctaggattac  11460
aggcgtgagc caccgcgccc ggccaccggc tctattttt atatcccact ctggagctct  11520
ggttcccggg cacttgctct tcacctctga ctcagagcgt gaacctgact tcaccctcct  11580
acccaggtgg ccaagactaa gcagcagatt gaggagcagc gggtgcaggt gcaggtggtg  11640
gagcgggccc agcaggtggc agtgcaggag caggagatcg cccggcggga gaaggagctg  11700
gaggcccggg tgcggaagcc agcggaagcg gagcgctaca agctggagcg cctagccgag  11760
gcagagaagt aaatgtcccc tccctgaccc tgcctagctc acttgccacc taggcacccc  11820
aagatggagt gctgaagcct tcaccacctg gactcctatg gatttcaggt ttcaggagcg  11880
tctgcctctg cagcactggg cctttctcct gggagtaagg gctgctgggc tccaccctcc  11940
acttcccttc tgtccacagg tcccaactaa ttatgcaggc ggaggcagaa gccgcgtctg  12000
tgcgggtgag ttaagaggca gttccatgct ggcttgtgga gagggtgggg gttgctgctt  12060
```

2720

```
gatcgggggat ttcttgttct taatgatttc cgtcaatctc acaagcatcc ttaaccctca 12120
gatgcgtggg gaagctgagg cctttgccat aggggcccga gcccgagccg aggctgagca 12180
gatggccaag aaggcagaag ccttccagct gtaccaagag gctgctcagc tggacatgct 12240
gctagagaag ctgccccagg tctggaggtc atgtgggcac caagaaagga ggaaatagaa 12300
ccagggacta aggggtgggg tgtagtgagg ggcttaggga gaaacagcct aggggggactc 12360
taaattaggg gtgggaatta ttagtgacca aagtgaggaa ggatgatcag tggaacgagg 12420
accttaaaac ccagagtaag ttgtttttatg aggaatgtgg tcagatcatg ggcactgagt 12480
gggtgtctct ctcctgccag gtggcagagg agatcagtgg tcccttgact tcagccaata 12540
agatcacact ggtgtccagc ggcagtggga ccatggggggc agccaaagtg actggggaag 12600
tactggacat tctaactcgc ctgccagaga gtgtggaaag actcacaggc gtgagcatct 12660
cccaggtgag gtctcaggtt ggagctgagg agaattgcta ggttcctgtg ttgtgtgaca 12720
cagtatgcct agcatttaac cagcatccag gcctgggagt cattgatgtt tattaatcac 12780
tttctgtgtg ccagacacag tgctaagctt ctacataaat gagttgtttt aaatcaaact 12840
accattaggg tatataggat tttacaaagt ccagaaactc aacatccagc atgttcctac 12900
tcattctgct agtgcagctg gagtgaaatc caggtcgact gtctctgcaa cctgtgcttg 12960
tggtcacccc actagtatag ggaactagtt gcagcctatt gacagttaat taattctagg 13020
gcatatcact gcttttctca gcgccccagt taattcacct gtagatcatg gtagaagtca 13080
gcaaacaggc tctggaacca ctgtttttgtt gcgaatccta gctacaatgc ctgctagctg 13140
taatcttgga caagtaatca acctctctat acctgtttcc tcatcttaaa attgggttaa 13200
taattagaaa ctaccctgtt gaattgttga ggggctcgag caaatatttg cagtgtttag 13260
aatagtgcct ggtatatagt aagcattatg tgtatgttaa agaaatgggg ccaggtgcag 13320
tggcttacgc ctgtaatccc agcactttgg gaggctgagg caggcagatc acctgaggtt 13380
aggagttgga gaccagcctg gccaacatgg tgaaacacca tctttactaa aaatacaaaa 13440
aaaaattagc caggcttggt ggtgcatgcc tgtaatctca gctactcggg aagctgaggc 13500
aggagaattg ctggaaccca ggagccgaag gttgcagtga gctgagatca caccactgca 13560
ctccagcctg ggtgacagaa taagactcta tctcaaaaaa aaaaaaaaat tccaggcgcg 13620
gtagctcatg cctgtaatcc cagcactttg ggaggctgag gcgggcggat cacgaggtca 13680
ggagattgag accatcctgg ctaacacagt gaaaccccgt ctctactaaa aatacaaaac 13740
agccgggcgt ggcggtgtgt gcctgtagtc ccagctgctg gggaggctga ggcaggagaa 13800
tggtgtgaac ctgggaggca gagcttgcag tgagccgaga tagcaccact gcactccatc 13860
ctaggcaaca gagcaagact ctgtctcaaa aaaaaaaga gaaagaaatg catattcggg 13920
ctgggtgctg tggctcacac ttgtaatccc agaactttgg gaggccaggg tggacgatca 13980
gctgaggtca gaagtttgag atcaccctgg ccaacatggt gataccccat ctctaccaaa 14040
aatacaaaaa ttagctgggt atggtggcgc atacctgtaa tcccagctac tcgggaggct 14100
gaggcaggag aatcacttga actcaggagg cggaggctgc agtaagccaa gatcgcacca 14160
ctgcattcta gcctgggtga tagagtgaga ttccgtctca aaaaaaaaaa gaaaaaaaaa 14220
aagcgtatgt aaataaaagc actggatcat accaatgacc ttcaagctgg gttccttgga 14280
gcctcctgga ggcctgcagt agaatattca gagctaagga gagtgtgcaa acaaggctct 14340
gccccctctc ctctcttcag tgatttattg tatgtgggtc ctgatgtctt tgtttgggga 14400
aacaggtggt agggcaccag aaagaaccct ggccgtgtgt gttctgccta tagcccattc 14460
gtctaaactg gggcccggga gagtaggggc ctcagcctcc cgaatgttcc caagtgtcat 14520
ctactgttgt ctttttgcca ggtgaatcac aagcctttga gaacagcctg agccttcagc 14580
cctcacagat gcccagcctc atagctgaag ttgcctgaat gatcctcctg ttgcatgtaa 14640
cccactggcc tccctgagca tgtccattga cagtgaggtc ccacccctca tctctccttg 14700
ccaaatagtt tgtgccttgt cttgaagggg gttgctcccc ttgccaacct cacactgcta 14760
tgattgccaa ctccagcggt cccatgtcag ccttctgatg atcccactcc accccacctc 14820
aacttattta acttcctaat taaatcagac tgtttgagcc tgttgtctag aatattttcc 14880
tgaccaagac tgagggatgg gctggaggtt ttcaactttg ctacccaaat aaattgctgt 14940
aagtaagtac taataaaaca gaagcaactg gaaattaatg cttggcccgg cacagtggct 15000
catgcctgta atcccagcac tttgggaggc caaggcaggc agatcatctg aggtcaggag 15060
ttcaagacca gcctggccaa catgacgaaa ccttgtctct accaaaaata caaaaattag 15120
ccaggcaggg tgaaacatgc caagtagtag tcccagctac ttgggaggct gaggcaggag 15180
aattacttga acctgggaag cagaggttgc agtgagccaa gatcgcacca ctgcactcta 15240
gcctaggtga cagagtgaga ctgtttcaaa a 15271
```

<210> 5796
<211> 2305
<212> DNA
<213> Homo sapiens

2721

<400> 5796

```
gtcttacagt  ggaaactatt  tggttttttca  ggagaatttg  ctcatatatt  tctggcttaa      60
attacggaca  ttttcccctt  caagtgtctg  actagtcaca  aacatctatg  taatttttt      120
taaaaaacag  aagaaaagat  gccatatatc  ttacatactt  tactccttag  aaatcccttc      180
aggctctcac  tccttacttt  tgctttactt  gcaagtttga  cttcttagct  tgtaatggaa      240
ggggtgtagg  aggtctctgt  gatgctagaa  gctggtgtcc  ggatagagta  aggggagaca      300
cggaaattgt  ttaaaaacgt  gtaaaggaac  tcataaagca  ttgccaaata  ggggccattt      360
tgcttagagg  caaaagcagc  tcctttccca  ggggaatcac  caaggtatca  gctgaggatc      420
ctttgaagca  gtggaaagaa  tattgtagga  gttgacagac  gttgtttaat  tctgccacac      480
tggtggccct  tgctgaaatc  tgtccacaaa  agcatttgt   ttggctggca  tagtgttgtt      540
ttatttttaa  atgtaattag  ttgctaatat  ttgaaaatgg  gagatattac  ataaaacctg      600
aattttcggc  ttttcttgaa  gaataggaag  gtcttgtcat  ttagggcctg  tattcaagcg      660
aggcactaaa  ctgctggagt  tgagtaaatg  gctcccttct  ttagacaggt  catgtatctc      720
caccttacca  cagcccccac  ttgtcctttt  tgcatattta  cataaaacag  cttttgactt      780
taagttagag  atactttgc   agtagaagtg  ataggaggag  gtggaagtgt  acataatcta      840
gctgatatgt  aaggttcttc  caattcttat  ttaaatagcc  actaacaatg  attctaaaca      900
agattgaaaa  tacagtatgt  ttcatatctg  gatatgctgt  tggtagctca  aaacctacgt      960
ttttacttgc  ctgctggaca  tttcatgtgg  atatctccat  atcttgattt  cttcctttga     1020
tttgttattg  aattattcgt  agatacatcc  gacttgtgtt  ctcttactct  tacctgaggc     1080
tctttggata  tgctagtccc  ttcatccttc  tttgcctggt  ccaacactac  tcatccttct     1140
agactcactc  aacctgaact  gtcaaatcat  cagggctgag  ttggatatta  ctcctttgtt     1200
ttcttttgc   accctgtcct  agctctgtga  attttaagtt  cctatttact  tgcctataac     1260
tagattggat  gctccttgag  aacagggatg  atatcttacc  cacattttat  tccccatact     1320
tatagtgctt  gacatctggt  aggcactcaa  tttgaataaa  taggtgaggg  gatatacaaa     1380
ctaaaactat  cacttctctc  ctccacctgt  catttcagtt  tttcttctcg  attaatggct     1440
ttattgttac  atttgactgg  tttaaaatgt  tggggtcatc  tctggcttct  ttgtattact     1500
gtgcacactc  aggtagagcc  tgtatgttca  tttccctttg  acatgttctt  ctagtctatt     1560
cctcctccga  cttctctaat  tgagtctcct  ttgtcagact  actgtgataa  cttcttaatg     1620
gggttcactg  gcccccacct  caccttctgt  ttttcaaatc  tcaccagtta  taggacactt     1680
ctgaacatgt  cacactcaga  attgttgatg  tcttttgagt  tcaacctatg  ctaaagtgca     1740
cttttagca   tagaattaac  agcaattgat  atttggcttc  atcctgcttt  tctgactgga     1800
ttgtctacca  taacctttta  tctcctttttt  gctttagcca  gtccggactg  ctactttttcc     1860
tgaatatggc  tggaatgtcc  cactgtatct  gtttcaccgc  atctatgagt  ctaagtccta     1920
tcttatctat  tgcacaaata  tatcatgcct  actatagacc  aggtattgcc  cttgacactc     1980
aggctaaaaa  ggtaaatgac  agggccgggc  gcagtggctc  acgcctgtaa  tccagcactt     2040
tgggagagca  aggtgggcgg  atcacgaggt  caggaattca  agaccagcct  ggccaacgtg     2100
gtgaaacccc  atctctacta  aaaaatacaa  aaattagcct  ggcgtggtgg  tgggcacctg     2160
taatcccagc  tactcgggag  gctgaggcag  gagaatagct  tgaaaccgga  agacggaggt     2220
tgcagtgggg  cgagattgca  ccactgcact  ccaacctggg  caacaagagc  aaaactctgt     2280
ctcaaaaaaa  aaaaaaaaa   gtaaa                                             2305
```

<210> 5797
<211> 903
<212> DNA
<213> Homo sapiens

<400> 5797

```
ttgagacttg  agatgtggtg  acacttggat  cataaacaga  gggcttcgat  tccaggatgg      60
gggttcctcc  aggggggaaat  gaaaaggagc  tctcactctg  ttcttacgta  tgcacaatgc      120
tctgaattgt  ggcacatggg  tttgcagaag  gataatggag  ataattgaaa  gtaatgaaaa      180
tgaaaccaaa  tctccttccc  caaaaactta  aaagaactga  ttcaaaagta  ccccaagaat      240
atgcaaagaa  aagggaatca  catcaacaga  tgattggata  aagaacatgt  ggtatgtata      300
cataatggaa  tactattcag  ccactaaaaa  gaatgaaacc  atgtcttttg  cagcaacctg      360
gatggaactg  gaggctgtta  tcttaagtga  aataacttag  aagtagaaag  tcgaatactt      420
catgttctca  ctcataaatg  ggagctacat  aaagtgtacc  catgaacata  gagtgtggaa      480
caaacattgg  agactcagaa  gggtgggagg  agggtaaggg  atgagaaagt  acctgatggg      540
tacagtgtac  acttttctgg  tgttggttgc  aggaaaagcc  tggacttcac  cacttcgcaa      600
tatatccgtg  taacaaaact  gcacttgtac  gccttatatt  tatacaaatt  taattttta      660
aaagggaaga  gagaatcata  ttaatttctc  accactttt   aagtaagcaa  acagcagtat      720
ttcccagagg  caagaggttc  agcaagaagt  caggaaatgt  ttttgtagat  aagcatctat      780
```

```
cattctgatg ggccatgact agtgtgttca cttgtaattc ctttgccttt aaaaaaagag    840
aatgatatca aaaataagt gccttatact gtgaaaaacg ataaaaggac ttcctgattc    900
taa                                                                 903


<210> 5798
<211> 903
<212> DNA
<213> Homo sapiens

<400> 5798
ttgagacttg agatgtggtg acacttggat cataaacaga gggcttcgat tccaggatgg     60
gggttcctcc aggggggaaat gaaaaggagc tctcactctg ttcttacgta tgcacaatgc    120
tctgaattgt ggcacatggg tttgcagaag gataatggag ataattgaaa gtaatgaaaa    180
tgaaaccaaa tctccttccc caaaaactta aaagaactga ttcaaaagta ccccaagaat    240
atgcaaagaa aagggaatca catcaacaga tgattggata aagaacatgt ggtatgtata    300
cataatggaa tactattcag ccactaaaaa gaatgaaacc atgtcttttg cagcaacctg    360
gatggaactg gaggctgtta tcttaagtga ataacttag aagtagaaag tcgaatactt    420
catgttctca ctcataaatg ggagctacat aaagtgtacc catgaacata gagtgtggaa    480
caaacattgg agactcagaa gggtggggag agggtaaggg atgagaaagt acctgatggg    540
tacagtgtac acttttctgg tgttggttgc aggaaaagcc tggacttcac cacttcgcaa    600
tatatccgtg taacaaaact gcacttgtac gccttatatt tatacaaatt taatttttta    660
aaagggaaga gagaatcata ttaatttctc accacttttt aagtaagcaa acagcagtat    720
ttcccagagg caagaggttc agcaagaagt caggaaatgt ttttgtagat aagcatctat    780
cattctgatg ggccatgact agtgtgttca cttgtaattc ctttgccttt aaaaaaagag    840
aatgatatca aaaataagt gccttatact gtgaaaaacg ataaaaggac ttcctgattc    900
taa                                                                 903


<210> 5799
<211> 248
<212> DNA
<213> Homo sapiens

<400> 5799
ttttatccta ttttgtgatt ttcagtatta agagattatt gatcacttgc agagttacaa     60
ggcaagcact agtttaaatc tgaattagac tagggccatt gaccttatat acctgtaaaa    120
gacactacgg tgtatacaac tgtagaaaca atatacacat agtagtttaa tattacagtc    180
tgtattccaa tgcagaatct tttgagaaaa ggttgccaaa acatcatttg catttacttg    240
aacccttt                                                            248


<210> 5800
<211> 2064
<212> DNA
<213> Homo sapiens

<400> 5800
ttctctgcag gtgtcaaagt cgtgttctca ggccactacc acaggaatgc cgggggtacc     60
taccagaacc tcgacatggt ggtgtcatct gccattggat gccagctggg cagagacccc    120
cacgggctcc gagtcgtggt ggtcaccgcc gagaaaattg ttcaccgata ctacagtcta    180
gatgagctga gtgagaaagg aatagaagac gatctcatgg atttgatcaa gaaaaaatga    240
cgctccttcc cgttcccgtt cactttcac ttgcactatt tttattttt gccagaaaca    300
gcagctgcac acaacctctt gctgaaatat aaaaatagcc caggcaggtt tgtgaattta    360
tgtccttttg cataaatcag agagctgggg ccctgtcctg aattatattc aaaatagaac    420
tgcatttcct ttaaaatgga gcgaatgatc ctggaaatca gtttttaaaa tattagacta    480
tctctgcatg gatgtttgaa taaattctcc taatgctgtg tttctcaact ccacttttga    540
attggatgta ttcgtggtta gcatatggtc aaagtctgcc tatagacctc aattccaatc    600
tgacagccaa gtatgatctt tgataattcc ttaaacaaac tacacctgat tgtattaaat    660
tgtggtcacg attcccaaaa cgctaggcaa aacaaagttc atctcctttc ctttccagcg    720
gaacgaacag ctgtctccct tgttgtgaga gccatgcaga cttatttga caaggagcca    780
```

2723

```
agtaggcacc atttactgtt caattctgag acttctgatg ataggaacag aatgcagttg     840
atacagctcg gagcttaaat ttgccttcct gggtgcctag aaaagtcacc tttgcacata     900
aattggccat ttctgaaaat ctcctccaag agactgaaac caaagctcta aaacgccgct     960
tcttcagtct ctggggagca cgttgagttg gttcacatcc acattctggc tgtgtagcca    1020
ctccacagat gggtggtctc ttgggatcag aatgcccctc cactcatgag actcttcatt    1080
ttgtccactt tgacaggaaa agtgggaatg tatgcagagc tctcaaaaga aacaaaaaag    1140
gccaaaacgg tgccttcagc cacatcctct gaattggccc tgacttggac taaatgcact    1200
aatgcaaaat cccttgacaa aagcgcatag gttatttcaa accagcattg ttttttatgt    1260
aacctgtttt accgcatctt ctcagcagct tctgaccact gctcaatttt ctcctttaca    1320
gccattgttc tggtggacaa ataacctagg tactccaaat cctggcagga aaaatataca    1380
gcattatgaa acagcactca gtaatcctaa aatgatttcc aaagctggtt acacatgacc    1440
tgcaaagtct attaaattaa aagactttct cattacagag tttagtcaac gtagcaaaac    1500
catgggaaat taaatggaaa gataattaaa tatgtaaatt cataaggaac aaaagacgag    1560
aagttaatta tacaataggc tggtgacacc agagttcatt gttatgtgcc acaagaaaat    1620
taaatttttt aaaaaactag aacgctcttc ttttagtgtt ttgctgaaat cctgttttgt    1680
atttgtttct ttacaacagg tgtaggtata ggaggtcaag aaaaggagtt cggtaaaggg    1740
catagctaat aacaaccaca cattgggcca ggcacagtgg cttacgcctg taatcccagc    1800
actttgggag gctgagacgg gcagatcacc tgagatcagg agtttgagaa cagcctggcc    1860
aacatggtga aactccatct ctactaaaaa tacaaaaatt agccaggcat gctggtgcac    1920
acctgtaatc ccagctactc gggaggctga ggcaggagat cgctggaact caggaggcag    1980
aggttgcagt gagccaagat catgccactg cactccagcc tgggcaacag agcaagactc    2040
tgtctcaaaa aaaaaaaaaa aaaa                                           2064
```

<210> 5801
<211> 2062
<212> DNA
<213> Homo sapiens

<400> 5801

```
ttctctgcag gtgtcagagt cgtgttctca ggccactacc acaggaatgc cggggggtacc      60
taccagaacc tcgacatggt ggtgtcatct gccattggat gccagctggg cagagacccc     120
cacgggctcc gagtcgtggt ggtcaccgcc gagaaaattg ttcaccgata ctacagtcta     180
gatgagctga gtgagaaagg aatagaagac gatctcatgg atttgatcaa gaaaaaatga     240
cgctccttcc cgttcccgtt cacttttcac ttgcactatt ttttattttt gccagaaaca     300
gcagctgcac acaacctctt gctgaaatat aaaaatagcc caggcaggtt tgtgaattta     360
tgtccttttg cataaatcag agagctgggg ccctgtcctg aattatattc aaaatagaac     420
tgcatttcct ttaaaatgga gcgaatgatc ctggaaatca gttttaaaa tattagacta     480
tctctgcatg gatgtttgaa taaattctcc taatgctgtg tttctcaact ccactttga     540
attggattgt attctggtta gcatatggtc aaagtctgcc tatcgacctc aattccaatc     600
tgacagccaa gtatgatctt tgataattcc ttaaacaaac tacacctgat tgtattaaat     660
tgtggtcacg attcccaaaa cgctaggcaa aacaaagttc atctcctttc ctttccagcg     720
gaacgaacag ctgtctgcct tgttgtgaga gccatgcaga cttattttga caaggagcca     780
agtaggcacc atttactgtt caattctgag acttctgatg ataggaacag aatgcagttg     840
atacagctcg gagcttaaat ttgccttcct gggtgcctag aaaagtcacc tttgcacata     900
aattggccat ttctgaaaat ctcctccaag agactgaaac caaagctcta aaacgccgct     960
tcttcagtct ctggggagca cgttgagttg gttcacatcc acattctggc tgtgtagcca    1020
ctccacagat gggtggtctc ttgggatcag aatgcccctc cactcatgag actcttcatt    1080
ttgtccactt tgacaggaaa agtgggaatg tatgcagagc tctcaaaaga aacaaaaaag    1140
gccaaaacgg tgccttcagc cacatcctct gaattggccc tgacttggac taaatgcact    1200
aatgcaaaat cccttgacaa aagcgcatag gttatttcaa accagcattg ttttttatgt    1260
aacctgtttt accgcatctt ctcagcagct tctgaccact gctcaatttt ctcctttaca    1320
gccattgttc tggtggacaa ataacctagg tactccaaat cctggcagga aaaatataca    1380
gcattatgaa acagcactca gtaatcctaa aatgatttcc aaagctggtt acacatgacc    1440
tgcaaagtct attaaattaa aagactttct cattacagag tttagtcaac gtagcaaaac    1500
catgggaaat taaatggaaa gataattaaa tatgtaaatt cataaggaac aaaagacgag    1560
aagttaatta tacaataggc tggtgacacc agagttcatt gttatgtgcc acaagaaaat    1620
taaatttttt aaaaaactag aacgctcttc ttttagtgtt ttgctgaaat cctgttttgt    1680
atttgtttct ttacaacagg tgtaggtata ggaggtcaag aaaaggagtt cggtaaaggg    1740
catagctaat aacaaccaca cattgggcca ggcgcagtgg cttacgcctg taatcccagc    1800
actttgggag gctgagacgg gcagatcacc tgagatcagg agtttgagaa cagcctggcc    1860
```

2724

```
aacatggtga aactccatct ctactaaaaa tacaaaaatt agccaggcat gctggtgcac      1920
acctgtaatc ccagctactc gggaggctga ggcaggagat cgctggaact caggaggcag      1980
aggttgcagt gagccaagat catgccactg cactccagcc tgggcaacag agcaagactc      2040
tgtctcaaaa aaaaaaaaaa aa                                              2062


<210> 5802
<211> 248
<212> DNA
<213> Homo sapiens

<400> 5802
ttttatccta ttttgtgact ttcagtatta agagattatt gatcacttgc agagttacaa        60
ggcaagcact agtttaaatc tgaattagac tagggccatt gaccttatat acctgtaaaa       120
gacactacgg tgtatacaac tgtagaaaca atatacacat agtagtttaa tattacagtc       180
tgtattccaa tgcagaatct tttgagaaaa ggttgccaaa acatcatttg catttacttg       240
aacccttt                                                               248


<210> 5803
<211> 2224
<212> DNA
<213> Homo sapiens

<400> 5803
gctaaagtgg tattgatttt aaacttgact caccaacttc acaggggtta atacagatgt        60
gaaaaatctt gagttataag cttcctgcat gcatgagact tgtttttatt ttgctgctct       120
agtgttattg gtttttattac gcaaggagaa agaaggcagg gaatttatgg tcaggagatt       180
cctggtcagg aggttcatag tcagaagatc tagactgggt cacaagaaat gacagaattt       240
aagcatttga gccagggaat aagaatgtgt gtgctctgcc tgtgtttttcc acattcattt       300
tactcagcat tgcactgtca tcttgcttaa gaacaattca gtaggtcaga aacattggat       360
tccaaagctg ttaatggttt attttccatt tcttgccttc gcaatatctg aaataaagtt       420
atatcccaga taactgatgg gaaaacaggg ttcaaagcta taggatatat gactcattta       480
acataaaatt attcaaatta atgaattagc aaatcctctt gtgcttataa taagcaaata       540
taagttttat cttgtctatt ataaaagaaa tgtctaaaca ttaagtgcaa aaccaaacta       600
ggcagcagga gaaggaaatt agttatgttg tttttataat aaggattgta aaaccaatat       660
cttagtgaaa ttctcagaaa gcttgattta aaaatttatc aaaattcggg agtttttttg       720
tttcatttgg tctatttgtc agtggtttga ggtcttagtt ctgcagcgac atcttatgga       780
gttggttagt ttgcacaacc atttaataat gtctgccaga actgatcatt gttctaacag       840
atttgatgca aataggatcc ctgcctgcgc tttgaatgtg gaagtaatta aacggatgct       900
atgaggactt ttattttttt ctctgttggt gcttatctaa aatttcctta tcatggcaac       960
tgtataattt ttaagacact ccaaaatatg tactgaggtc tgaaattctc actacatatt      1020
ccaagttagg ataggagggg agaaggaagc tgttgaatag tgaaataaga cagcagtaaa      1080
agatcacagt acagctggtg tttgttggca agagtttcca cttaaaaatt tgcagcagtg      1140
caagtacctc aattattatt ggcgcttttc actgttcgtg atcaccagga gtgaaaaaaa      1200
aagaaaagaa aagaaaagaa aattgaattc tttgaagctc agagaagtaa actgaaaaat      1260
ttttgagtac cgaaatttac ccatttcttc ttctgattgt gttctttttga acagaacaca      1320
ttgcattaaa ctctagaaag aaaaaaagtg actgttttca tatttttatg attggagtca      1380
cattcttaag atctataatg tagattacag caccattttg ttatctgcta gaagaaatat      1440
agctaatcat ctctaaatta gtaatgttac attttatttt gcttcctatt tactagtgtg      1500
gcacatttta atgacagaaa atttccttga aggcaagagc tttacacaca gtaggatttc      1560
actcagtttt tgcatatatt gaccattgca gaatacaaac aactgttaag taatttctcc      1620
caaagacagg ccataataaa gaggaaaaat ataaactata tgacactaaa aatcctgtta      1680
atcttgatca atcagtgaat gaaacactaa ttgtgccaaa caacacattc tacctgaaca      1740
aaaggaggta attgcagtat gtttctatga atacatagca gctgttctat gccattatta      1800
tcactggtga gtaaagatca tggtgaatca ttgtctaata tcttgtgatc ttgctcacat      1860
ataaaaattg ccaggggact tcattaatta tgattgcatc ttaagggctc tggacatttt      1920
catgagtgcc acaggacacc tagaaaataa ttgcatcttt tgagaaccat gtgccagtga      1980
caaggtaaag ctcaggttgt atattccaga gattctctgg caaatgagca ttgcctgcct      2040
taatattcta agcccatcag ttagaaaagg ctgaccctat gacttaaaat tgcatgctgc      2100
atgattagaa agatagataa caatatattt taaagaatta tttgtacctc acacatgccc      2160
```

```
aacaagattg aatgatttta attgaattga atattggtaa atttgctaga aacagaaaaa    2220
taag          `                                                        2224


<210> 5804
<211> 2224
<212> DNA
<213> Homo sapiens

<400> 5804
gctaaagtgg tattgatttt aaacttgact caccaacttc acaggggtta atacagatgt      60
gaaaaatctt gagttataag cttcctgcat gcatgagact tgtttttatt ttgctgctct     120
agtgttattg gttttattac gcaaggagaa agaaggcagg gaatttatgg tcaggagatt     180
cctggtcagg aggttcatag tcagaagatc tagactgggt cacaagaaat gacagaattt     240
aagcatttga gccagggaat aagaatgtgt gtgctctgcc tgtgttttcc acattcattt     300
tactcagcat tgcactgtca tcttgcttaa gaacaattca gtaggtcaga aacattggat     360
tccaaagctg ttaatggttt attttccatt tcttgccttc gcaatatctg aaataaagtt     420
atatcccaga taactgatgg gaaaacaggg ttcaaagcta taggatatat gactcattta     480
acataaaatt attcaaatta atgaattagc aaatcctctt gtgcttataa taagcaaata     540
taagtttat cttgtctatt ataaagaaa tgtctaaaca ttaagtgcaa aaccaaacta     600
ggcagcagga gaaggaaatt agttatgttg tttttataat aaggattgta aaaccaatat     660
cttagtgaaa ttctcagaaa gcttgattta aaaatttatc aaaattcggg agtttttttg     720
tttcatttgg tctatttgtc agtggtttga ggtcttagtt ctgcagcgac atcttatgga     780
gttggttagt ttgcacaacc atttaataat gtctgccaga actgatcatt gttctaacag     840
atttgatgca aataggatcc ctgcctgcgc tttgaatgtg gaagtaatta aacggatgct     900
atgaggactt ttattttttt ctctgttggt gcttatctaa aatttcctta tcatggcaac     960
tgtataattt ttaagacact ccaaaatatg tactgaggtc tgaaattctc actacatatt    1020
ccaagttagg ataggagggg agaaggaagc tgttgaatag tgaaataaga cagcagtaaa    1080
agatcacagt acagctggtg tttgttggca agagtttcca cttaaaaatt tgcagcagtg    1140
caagtacctc aattattatt ggcgcttttc actgttcgtg atcaccagga gtgaaaaaaa    1200
aagaaaagaa aagaaaagaa aattgaattc tttgaagctc agagaagtaa actgaaaaat    1260
ttttgagtac cgaaatttac ccatttcttc ttctgattgt gttcttttga acagaacaca    1320
ttgcattaaa ctctagaaag aaaaaaagtg actgttttca tatttttatg attggagtca    1380
cattcttaag atctataatg tagattacag caccattttg ttatctgcta gaagaaatat    1440
agctaatcat ctctaaatta gtaatgttac attttatttt gcttcctatt tactagtgtg    1500
gcacatttta atgacagaaa atttccttga aggcaagagc tttacacaca gtaggatttc    1560
actcagtttt tgcatatatt gaccattgca gaatacaaac aactgttaag taatttctcc    1620
caaagacagg ccataataaa gaggaaaaat ataaactata tgacactaaa aatcctgtta    1680
atcttgatca atcagtgaat gaaacactaa ttgtgccaaa caacacattc tacctgaaca    1740
aaaggaggta attgcagtat gtttctatga atacatagca gctgttctat gccattatta    1800
tcactggtga gtaaagatca tggtgaatca ttgtctaata tcttgtgatc ttgctcacat    1860
ataaaaattg ccaggggact tcattaatta tgattgcatc ttaagggctc tggacatttt    1920
catgagtgcc acaggacacc tagaaaataa ttgcatcttt tgagaaccat gtgccagtga    1980
caaggtaaag ctcaggttgt atattccaga gattctctgg caaatgagca ttgcctgcct    2040
taatattcta agcccatcag ttagaaaagg ctgaccctat gacttaaaat tgcatgctgc    2100
atgattagaa agatagataa caatatattt taaagaatta tttgtacctc acacatgccc    2160
aacaagattg aatgatttta attgaattga atattggtaa atttgctaga aacagaaaaa    2220
taag                                                                   2224


<210> 5805
<211> 333
<212> DNA
<213> Homo sapiens

<400> 5805
ttactatatc ttttaagtag aaggctttta aagtgtgtca tggagacaga agcccatact      60
tacctcctga gcatctatgg aaaattaaga gttggctttt attataggtc tctcaagtga     120
gctaagcata accaagcata ggctcctact taaggtatta cattttataga gagtactgaa     180
aaggtaggcg tccttcaaac tacctgggat gaaggaaaag ctttggagtc ccaaggaata     240
gcagagggag aataaggatg gcacctgaat gtggtgtagg ggttccaggg accaacttct     300
```

```
cagggtcttg agaagaccac tgctctgcat gat                              333


<210> 5806
<211> 333
<212> DNA
<213> Homo sapiens

<400> 5806
ttactatatc ttttaagtag aaggctttta aagtgtgtca tggagacaga agcccatact    60
tacctcctga gcatctatgg aaaattaaga gttggctttt attataggtc tctcaagtga   120
gctaagcata accaagcata ggctcctact taaggtatta catttttaga gagtactgaa   180
aaggtaggcg tccttcaaac tacctgggat gaaggaaaag ctttggagtc ccaaggaata   240
gcagagggag aataaggatg gcacctgaat gtggtgtagg ggttccaggg accaacttct   300
cagggtcttg agaagaccac tgctctgcat gat                               333


<210> 5807
<211> 26439
<212> DNA
<213> Homo sapiens

<400> 5807
gggactacag gtgcgtgcca ccacacccag ctaatttttg tattttтggt agagacaggg    60
tttcaccacg ttgtccatgg ccaggatggt cttgatcttg accttgtgat ccgcccgcct   120
cggcctccca aagtgctggg attgcaggcg tgagccaccg tgcccggcct gtcctctgtg   180
gttttctggg cttatgttaa aattataact caatcaccag tctttataaa tttgcttttt   240
tatatttaaa ccaaacctaa tgctaattgt gatatgttat ttattctcac ctgatttgaa   300
tcattggatt caattaaatg agtttaatta tcattaaata attctaagag aaataatgtc   360
tattcggatg gtgggaattt tctttctaca tgcagcccca ttctgaatga atgaaatcaa   420
atcacgtgaa gatcagggtc ctagagtaac ttaatatttt gtacattggt tatttgactc   480
ctcattttta tattacatgt tatatcaagg gaggggggcat aaaagaaata caaaaattgc   540
agaggtatct ggaatgtacc tatttgttaa ttctatttgt catttctttt gtttcatctt   600
ttgagtaata agctgcttgg aaaagtttct gttctttagc tgatttttta gctataaaaa   660
tgtatttgaa aagctcataa atttcaggat tgaaaagata attgaaagtt ttaaaaaaac   720
ctaattcatt gaagtaataa ccaaataatt ttcaatcttg attcaactgt gattcaaatc   780
ttacaccatt tgcccacttc tatgaatttt atgtataaaa tttttтaaga gtcagagttt   840
tttttcttga ttaattggat gtatttcaca gaatttccaa ctgctcacgt tagtttttctt   900
cctttтagag ttgatctctc taatgtatta gatcttcatg cctttgatag tctctctgga   960
ataaggtatg ttttgtataa tttggttact tttattgtta tgtacctttt ttccccatag  1020
ttaacaggaa tgatttgcac aattgcatcc atgatttaag cttcctgcca ttcctttggc  1080
atacaagacc atacttaatg aggtatattc ttggaagttt tactaactgg ttgtttggaa  1140
atcatattgc attttcctgt agaaattata gtgtaaatga tagttaactt tagaggctaa  1200
tcgttaacac ttctacacca aacactatat ctagtactct ttctatgaga aaatgcatga  1260
aatacataga aaattttagc ttagcgtttt cacacaaata actctcttca ctttattttt  1320
ttattttтta ttttttcttg agtttttttt taatttattt atttattatt attatacctt  1380
aagtтttagg gtacatgtgc acaatgtgca ggttagttac atatgtatac atgtgccatg  1440
ctggtgcgct gcacccactg actcgtcatc tagcattagt tatatctccc aatgctatcc  1500
ctccccccctc cccccaaccc acaacagtcc ccagaatgtg atgttcccct tcctgtgtcc  1560
atgtgttctc attgttcaat tcccacctat gagtgagaat atgcggtgtt tggttttttg  1620
ttcttgcgat agtttatgga gaatgatgat ttccaatttc atccatgtcc ctacaaagga  1680
catgaaccca tccttttтta tggctgcata gtattccatg gtgtatatgt gccacatttt  1740
cttaatccag tctatcattg ttggacattt gggttggttc caagtctttg ctattgtgaa  1800
taatgccgca ataaacatat gtgtgcatat gtctttatag cagcatgatt tatagtcctt  1860
tagggtatat acccagtaat gggatggctg ggtcaaatgg tatttctagt tgtagatccc  1920
tgaggaatcg ccacactgac ttccacaatg gttgaactag tttacagttc cgccaacagt  1980
gtaaagtgt tcctatttct ccacatcctc tccagcacct gttgtttcct gacttcttaa   2040
tgattgccat tctaactggt gtgagatagt atctcattgt ggttttgatt tgcatttctc  2100
tgatggccag tgatggtgag cattttttca tgtgttcttt ggctgcataa atgtcttctt  2160
ttgagaagtg tctgttcatg tccttcaccc acttttttgat ggggttgttt gttтttttтc  2220
ttgtaaattt gtttgagttc attgtagatt ctggatatta gccctttgtc agatgagtag  2280
```

```
gttgcgaaaa ttttctccca ttttgtaggt tgcctgttca ctctgatggt agtttctttt    2340
gctgtgcaga agctgtttag tttaattaga tcccatctgt caattttggc ttttgttgcc    2400
attgcttttg gtgttttaga catgaagtcc ttgcccatgc ctatgtcctg aatggtaatg    2460
cctaggtctt cttctagggt ttttatggtt ttaggttgaa cgtttaagtc tttaatccat    2520
gttgaattga ttttgtata aggtgtaagg aagggatccg gtttcagctt tctacatatg     2580
gctagccagt tttcccagca ccatttatta aatagggaat cctttcccca ctgcttgttt    2640
ttctcaggtt tgtcaaagat cagatagttg tagatatgcg gcgttatttc tgagggctct    2700
gttctgttcc atgaatctat atctctgttt tggtaccagt accatgctgt tttggttact    2760
gtagccttgt agtatagttt gaagtcaggt agtgtgatgc ctccagcttt gttcttttgg    2820
cttaggattg acttggcgat gcgggctctt ttttggttcc atatgaactt taaagtagtt    2880
ttttccaatt ctgtgaagaa agtcactggt agcttgatgg ggatggcatt gaatctgtaa    2940
attaccttgg gcagtatggc catttttcacg atattgattc ttcctaccca tgagcatgga   3000
atgttcttcc atttgtttgt atcctctttt atttccttga gcagtggttt gtagttctcc    3060
ttgaagaggt ccttcacatc ccttgtaagt cagattccta ggtattttat tctctttgaa    3120
gcaattgtga atgggagttc actcatgatt tggctctctg tttgtctgtt gttggtgtat    3180
aagaatgctt gtgatttttg tacattgatt ttgtatcctg agactttgct gaagttgctt    3240
atcagcttaa ggagattttg ggctgagatg atggggtttt ctagatatat aatcatgtca    3300
tctgcaaaca gggacaattt gacttcctct tttcctaatt gaataccctt tatttccttc    3360
tcctgcctaa ttgccctggc cagaacttcc aacactatgt tgaataggag tggtgagaga    3420
gggcatccct gtcttgtgcc catttttcaaa gggaatgctt ccagtttttg cccattcagt    3480
atgatattgg ctgtgggttt gtcatagata gctcttatta ttttgaaata cgtcccatca    3540
atacctaatt tattgagagt ttttagcatg atgggttgtt gaattttgtc aaaggccttt    3600
tctgcatcta ttgagataat catgtggttt ttgtctttgg ttctgtttat atgctggatt    3660
acatgtattg atttgcatat attgaaccag ccttgcgtcc cagggatgaa gcccacttga    3720
tcatggtgga taagcttttt gatgtgctgc tggattcggt ttgccagtat tttactgagg    3780
attttttgcat caatgttcat caaggatatt ggtctaaaat tctctttttt ggttgtgtct    3840
ctgcccggct ttggtatcag gatgatgctg gcctcataaa atgagttagg gaggattccc    3900
tctttttcta ttgattggaa tagtttcaga aggaatcgta ccagttcctc cttgtacctc    3960
tggtagaatt cggctgtgaa tctatctggt cctggactct ttttggttgg taagctattg    4020
attattgcca caatttcaga tcctgttatt ggtctattca gagattcaac ttcttccttg    4080
tttagtcttt ggagggtgta tgtgtcaagg aatttatcca tttcttctag attttctagt    4140
ttatttgcgt agaggtgttt gtagtattct ctgatggtag tttgtatttc tgtgggatcg    4200
gtggtgatat cccctttatc attttttatt gcgtctattt gattcttctc tcttttttttc    4260
tttattagtc ttgctagcgg tctatcaatt ttgttgatcc tttcaaaaaa ccagctcctg    4320
gattcattaa ttttttttgaa gggtttttttg tgtctctatt tccttcagtt ctgctctgat    4380
tttagttatt tcttgccttc tgctagcttt tgaatgtgtt tgctcttgct tttctagttc    4440
ttttaattgt gatgttaggt tgtcaatttt ggatctttcc tgctttctgt tgtgggcatt    4500
tagtgctata aatttccctc tatacactgc tttgaatgcg tcccagagat tctggtatgt    4560
tgtgtctttg ttctcgttgg tttcaaagaa catctttatt tctgccttca ttttgttatg    4620
tacccagtag tcattcagga gcaggttgtt cggtttccat gtagttgagt ggttttgagt    4680
gagattctta atcctgagtt ctagtttgat tgtactgtgg tctgagagat agtttgttat    4740
aatttctgtt cttttacatt tgctgaggag agctttactt ccaagtatgt ggtcaatttt    4800
ggaataggtg tggtgtggtg ctgaaaagaa tgtatattct gttgatttgg ggtggagagt    4860
tctgtagatg tctattaggt ctgcttggtg cagagctgag ttcaattcct gggtatcctt    4920
gttgactttc tgtctcattg atctgtctaa tgttgacagt ggggtgttaa agtctcccat    4980
tattattgtg tgggagtcta agtctctttg taggtcactc aggacttgct ttatgaatct    5040
gggtgctcct gtattgggtg catatatatt taggatagtt agctcttctt gttgaattga    5100
tcccttttacc attatgtaat ggccttcttt gtctcttttg atctttgttg gttgaaagtc    5160
tgtttttatca gagactagga ttgcaacccc tgccttgttt tgttttccat ttgcttagta    5220
gattttcctc catcccttta ttttgagcct atgtgtgtct ctgcacgtga gatgggtttc    5280
ctgaatacag cacactgatg ggtcttgact ctttatccaa tttgccagtc tgtgtctttt    5340
aattggagca tttagtccat ttacatttaa agttaatatc gttacgtgtg aatttgatcc    5400
tgtcattatg atgttagctg gttattttgc tcgttagttg atgcagtttc ttcctagctt    5460
ggatggtctt tacattttgg catgattctg cagtggctgg taccggttgt tcctttccac    5520
gtttagtgct tccttcagga gctctttttag ggcaggcctg gtggtgacaa aatctctcag    5580
catttgcttg tctgtaaagt atttttatttc tccttcactt atgaagctta gtttggctgg    5640
atatgaaatt ctgggtcgaa aattcttttc tttaagaatg ttgaatattg gcccccactc    5700
tcttctggct tgtagagttt ctgccaagag atccgctgtt agtctgatgg gcttcccttt    5760
gagggtaacc cgacctttct ctctggctgc ccttaacatt ttttccttca tttcaacttt    5820
ggtgaatctg acaattatgt gtcttggaat tgctcttctc gaggagaatc tttgtggcat    5880
tctctgtatt tcctgaatct gaacgttggc ctgccttgct agattgggga agttctcctg    5940
```

                                    2728

```
gataatatcc tgcagagtgt tttccaactt ggttccattc tccccgtcac tttcaggtac   6000
accaatcaga catagatttg gtcttttcac atagtcccat atttcttgga ggctttgttt   6060
gtttcttttt attctttttt ctctaaactt cccttcttgc ttcatttcat tcatttcata   6120
tttcatcgct gatacccttt cttccagttg atcgcatcgg ctcctgaggc ttctgcattc   6180
ttcacgtagt tcttgagcct tggttttcag ctccatcagc tcctttaagc acttctctgt   6240
attggttatt ctagttatac attcttctaa attttttttca aagtttttcaa cttctttgcc   6300
tttggtttga atgtcctccc atagctcgga gtagtttgat cgtctgaagc cttcttctct   6360
cagctcgtca aagtcattct ccctccagct ttgttccgtt gctggtgagg agctgcgttc   6420
cttcggagga ggagaggcgc tgcgttcctt tggaggagga gaggcgctct gctttttaga   6480
gtttccagtt tttctgctct gtttttttccc catctttgtg gtttttatct acttttggtc   6540
tttgatgatg gtgatgtaca gatcggtttt tggtgtggat gtcctttctg tttgttagtt   6600
ttccttctaa cagacaggac cttcagctgc aggtctgttg gagtacccgg ccgtgtgagg   6660
tgtcagtctg cctctgctag ggagtgcctc ccagttaggc tgctcggggg tcaggggtca   6720
gggtcccact tgaggaggca gtctgccagt tctcagatct ccagctgcgt gctgggggaa   6780
ccactgctct tttcaaagct gtcagacagg gacacttaag tctgcagagg ttactgctgt   6840
ctttttgtgt gtctgtgccc tgcccccaga ggtggagcct acagaggcag gcaggcttcc   6900
ttgagctgtg gtgggctcca cccagttgga gcttcctggc tgctttgttt acctaagcaa   6960
gcctgggcaa tggcgggcgc ccctccccca gcctcgctgc cgccttgtag tttgatctca   7020
gactgctgtg ctagcaatca gcgagactcc gtgggcgtgg gaccctccga gccaggtgcg   7080
ggatataatc tcgtggtgcg cctttttttta agccgtcgg aaaagcgcag tattcgggtg   7140
ggagtgaccc gatcttccag gtgccgtctg tcaccccttt ctttgactag gaaagggaac   7200
tccctgaccc cctgcgcttc ccaagtgagg caatgcctcg ccctgcttcg gctcgcggat   7260
ggtgcacgca cccactgacc tgcgcccact gtctggcact ccctagtgag atgaacccgg   7320
tacctcagat ggaaatggag aaatcgcctg tcttctgcgt ctctcacgct gggagctgta   7380
gaccggagct gttcctattt ggccatcttg gctcctctct cctctcttca ctttaataat   7440
ggattagttt tctgccttct cctgtgggga atcttttttgg taagggaggg aagaaagatt   7500
agttattctt gtgcatcagt atctttttct ttttttattg tagtaagaac atctaacatg   7560
agatctaccc tcttaacaat tttttaagtg tacaatacag tattgctaac tataggcatg   7620
aggatgtgca gcagatctct ggaacgtttc actctttata actgaagctt tatacccctt   7680
gaatagcagc ttcccatttc cctgtcttca tagcccctgg catccaccat tctacactct   7740
ttctgtgggg ttgactattt taattacctg acgcaagtgg aatcatgcat tatttgtctt   7800
tctgtgactg gtttatttca cgtagcataa agtcaccaag gttcatccat gtttttgcat   7860
atggcaagtt ttccttttta agtctgaata atattccatt ttctacatat accacattta   7920
ctttatccct ttttctgtta gtggacattt aacttgttct cacagcttgg ctattgcaaa   7980
taatgctgca atgaatatct cataagtctc gtatatgtcc atagaagatc atgaaaatgg   8040
acatgtctct gggtatttg aattggtggg acaattttgc ttaagggtag gcatagtggg   8100
tggctctaca tttgagagtt ctaattccca ttcctatata tatttctttt cttttattt    8160
atttattttt ttgagatggg gctctctgtc actcaggctg gagtgcagtg gcacaaacat   8220
ggcttactgc agcctcaacc tcctgggctc aagtgatcct cccatctcag cctcccaaga   8280
agctggggac acaggcatgt gtcaccatgc ctgactaatt tttttttta attttctgta   8340
agcatggggt cttgctatgt tgcctaggct ggtctcaaac tcctgggctc aagtgatcct   8400
catgcctcag cctcccaaag tgctgggatt acatgtgtag gccaccacac ccagccttat   8460
atatatattt ctaattttgc cttagccatg ccccttaaaaa ctaattctac tttcaactag   8520
ttttttttt tccaccttca gtctgtagta ttgttcacat tttgaaaaca atacctacag   8580
taacctgtga ggtaggacat gatagtgttt tattggaccc ctttttacttt atgaattgga   8640
aaaattaaat ttgcatgtag tttgtaaaaa aaaataaag aaagaaagaa aaagaaatt    8700
gattgagatt atttcagcag ccagaagtgt gggacaggca gggcagttat tcctccttct   8760
cagtttggaa actgaagctc agagagtaaa cttgtcagtg atacagttat tcaagaagtt   8820
gtcttcagtt gagagatacg tttttcacct gtagcttctg gtattggaac agtacctttt   8880
tagactaaac aaattacggt taaaattata agggtatttt cggagtacct ggaaaaaatc   8940
agcattttgc ttttctagtt ccatttagta ggaagacagg aaagtttggt atacctgaat   9000
tacatgtgag ttatttctat ttttctaaaa attcttataa attgtgtaag gtaaaaatga   9060
ctacttcttg ttttatggta aatatagtta tatcctttca agccactgct gtacaaagtt   9120
gtgaaatctc cctgaggctt tttccctcat gtcagcttca ggtatccagt atcacttatg   9180
cttgataatg attgtatgaa aatcattcag aattatacta tgttttttca tataaagctt   9240
ttgtttttact aattttgaaa tgactgttcc tccattaagc gaatacagcc ctaagcataa   9300
atttggtttg ttcatttaaa aatggtcttt ttttcccatc ttagttctgg ctttactagg   9360
gagatagatt ggctgaggtt gtcacctaat tctgggaggt taagaccctt tgtctttttgc   9420
tacccatttc tgaaataacc agaagtctag cccatcctaa ctttctctc gatgatcctt   9480
ttcttctttt tacttcaagg ttccagccct tcatttgact atcagtgctg tttcactagt   9540
tagccatgat ccctttcatc caccgtgtct ggattagaac tgtatttta atttgatgct   9600
```

2729

```
gtgggcagtt ttgatagtta cagatcctgt gatacattta aatgtgttta caaggggaac   9660
aaatgaaaca atgctgcatg aaatttgcct ttctttttt ttttttttcc ccttggagac   9720
agggtctggg tctattgccc aggctagagt gcagtggtgc gatgtcagct ccctatagcc   9780
tctgtgtcct gggcttaagc cgtcttccca cctcagactc atgagtagct gggactatag   9840
gcacacacta ccatgcctgg ctaatttttt attttggtag aagatgaggt tttgccatgt   9900
tgccgaagct gatcttaaac tcctgggctt aagtgatctg cccacctcag cctcccaaag   9960
taatgggatt ataggcgtga gccaccacac ttggcctttt ctttttttta tatttattta  10020
attattttat tttattgaga cagagtctca ctctgacacc tgggctggaa tgcagtggct  10080
atcatggctc tctgcagtcg tgaactcctg gactcaagtg atcctcccat ctcagcctcc  10140
tgagtagctg ggactacagg cttgcaccca tgcctggcta attttttat tgttactttt  10200
ttgtagtgac aggctctcgc tacgttgctc aggctcgtct tgaactcctg gcctcaagtg  10260
attctcctac ttggcctctc aaagtgctgg gattataagc ctgagccact gaacccagca  10320
aaatttgcct ttcttaaact aatttatctc tgttgggtcc aagagcttac aagttggttg  10380
tcatttaata tgttaaacac tagaatattt tttagttgaa attttatttt ttccctttac  10440
atgttgtatc ctttagtgct ttatttcact aataagaatt atagtatgca atcatttccc  10500
acctctatat tcagtatatc aattttttgt tttcctttct acttctgtct tttgctataa  10560
tttgctgtaa tacaggtact ttcatcaagg catccagttc tttatatcat tctatatttt  10620
tacttgggag aaatagaaat gttgctaatt ccatcttact gacaatacct aaattattgt  10680
ttgttataga acataatgat ttaaatatac aaaacactaa actgtttgag attttttaca  10740
ttttatgcgt gcagaattta cattttatgt gtgcagagac aaaaattgtt ataagattac  10800
aagttaatgt gcaagatgat ttccgattca tgagtttcag gttttgatag catatcctta  10860
tccactagat tagtctttta aaaatgtgta tgatagggaa aaaatcgagg ccatgaaatt  10920
ctgagactta tgggaactaa acttaaatgt tcgttgttag attttttttt tttttttttt  10980
tgctgcgtat gaagttctag gcagtcattg tccaacaaca ttaaatactg aacatatggg  11040
aaaagcatat gattttcga aatgttttc taaagtaatc tcattctaca tacacttaag  11100
agcagttata atgctttagt gacacttgaa gtagctattt aatgtgatct caccactata  11160
gggaaggccg ttgcatgact tttttgtgtg tgcttaactg ctaaacagga gaatctttc  11220
ctgagcaacc agctgggaag gatttaattt gacattctcc ctactaggac cccccaaaga  11280
gactcattcc ctccaatagt tcctacaagt tctttctctt tcctaaactt gctgttacta  11340
atttaccct cactcttctt caaggcaaag catctgcaag gtttcagtc ctttcccct   11400
cccgtcctgt ccccatcagt gttgaaatgt atgctacagt tattatggtt gtaatttgtt  11460
atgccatgtt gatcttcttg tgcttttcat atcagaacaa tgcatttta acattctgac  11520
tttcttttc tctcaattgg taactgacta tatagaaaat ttatatttat ggatactatt  11580
tcttttttaa taagttcaag ggaaaacatt gataaaggaa aatttatcct ttcaactttc  11640
tttaggtgcc agcattattt tcatattagg aagcaggaga aagttaagga actctgagca  11700
atactagaat ggttatatat atttaagttt gtattaaacc tgttggaatg gtaaagaaat  11760
ttactgacat atttaaccat acaaaatagt gttgctaaaa gactagtttt tctctttatt  11820
ctgtgcatat gtatatatat gaatgtgtgg gttttttta agaaatttta aaaaaactta  11880
atctgccagc ttttctctat tggaatttgc gaacaacttg taaaattgga attacagaat  11940
attagaatag tcagttatgg aaagtcactt cattatcctt gtgtcactaa ataacgtata  12000
aagttaaatc agaagtgtat tcatctctga atttctaatc agttgttttt agtttgcaga  12060
aaaaacttca gcatgtgcca ggaacacaac ctcaccttga tcaggtaaag aaaaaaaatc  12120
taaatccaaa attcctaatc aatgttttta aaggacctct ttaactagat aggctatgtt  12180
taggactatt ttattataaa cttttctaa aatggtattt ttgaactgta ttgataattt  12240
ttggaatctt aaatgctttt gacatagtct aattctattt cttaacacat aataggaatt  12300
catcaaacca gatttgtttt agaatctgag gaaatcatgc tttctagcct ttccattctg  12360
tagattgctt agcatattgg ttagttctga tagggattac tccttaaaag cagcctgggg  12420
gttctatagg cagtctgttt ttaagtatgt tgaattgttt aaggaaaggt ctgatataag  12480
catggcttat ttaaataaaa attgacttgg agtttcacct tcaggtagca ctataaattt  12540
gaactcctta agatgttttt catgctctaa aattctaatc cctaaggtaa atatctaaga  12600
tgctaggaac aatttaaata taattttact gtacctgcgt ttctgttaag cagatcatag  12660
atcgtagagc tttaggataa cttctttgtt cctcttaaaa ccctgagggg tggagtgggg  12720
gatgtgtaag tgagcagtgt gcctaatctt ccttcctctc tctcaagtga tcactcagtt  12780
tttgaattgc tattggttgt aatagggccg agataacagc tacttgcatt tgtattcatt  12840
ttggttcaca tttatgagca ggtttgccac tatgtttgtg gcacctttcc ctgtgaaact  12900
tttgttaata ggatattcct cttcacttat ctttaaaatg aataaatgag agaaatacaa  12960
gtccttggag atagaattta tggtaaaaaa acaaaaaacc cagttcttca tgatagtcgg  13020
tatctgtcat atagctgaac atgaagcaca tttgagcttc tgggtaaaga acgtgatgcc  13080
aagaatcata gggatgaaaa gatgaagcaa acgcagcgct cactttccat gagcgtttgg  13140
ggcggccagt gtctccatcc atagagcctc gaatgaacct ctattgtggc ggttacgatg  13200
ccttgcagtt tgcttgaaat gcttttgcct ggcaagagtc tatacattcc ttacgtataa  13260
```

```
aatctgtatt gcttagtaca gggcttggtg ggtactcagt gagtatttgt tacaagaatg 13320
aaaagctgcg tttctcaaat ggggcataaa tcagaatcgc atgtggagcc tttttaaaaa 13380
aaaattcgata actcagtagt tctcacccta agtctccagg attgggactt gggtatgtgt 13440
atattaatgt atatttttaa cattttatta tggaagattt caaagatata aaagaataaa 13500
cagaatagta aagtgaaccc cttgtatgca tcacccagtt taaatggcat caacatttag 13560
ctgattttat ttcacctatc ctcccaacat ttcttttgcc tggagtattt aaaaaaaaca 13620
aatgtatttt aataggaaat ttcaaacgtg cgtaagagta gaatggcata atgagcctgt 13680
atgtacctat tgcccttggt gtagtgtatt aaagcaaatt ccagacacta tgtcactta 13740
ctactaaata gggcatatct atattttgt agcctctgta ggagattctg atgcactgtc 13800
ctgctttaga taatataaac ataggggaaa atagtatcac agccaaaggg ctatgggatt 13860
cagaggcatg aacaatttca tttggtttag tggatctggg gtgtaaggga ggaaatttat 13920
cttttcctcg cctatcacta gattcatggc tgaggtctct ctaacagaag accaactatc 13980
aagagaaatt tcaacataga aatttattta gtaagtttta cttgacacag gagccttcat 14040
aaaacatacc tgtgtatgtt ttctgttagt tatgatatgg aagaggatag taatggagaa 14100
gcataattag ataaaacagt atgatctaat aataaactgg gaagaactta gcaaggcctg 14160
tttgctcaga ttttttctctg tgacccttca tattcagact taaggatgtt cttttcctct 14220
gtgtatagag agggcacctc ttaaatgagg gtcttatgac ctgcatcagc ggaaggtcag 14280
aaaatctttc ctaggtttta tgacctgctt caggagagaa ggtgagagtg accttcctga 14340
ttctgccatt ttctcaaata ttgagttgcc atattttggg atagcatgtc ctgaaccca 14400
tcaaatgctt catgaggata gttttttgtt tgtttgtttt ggttttggtt tatttatttg 14460
catacagtaa agcatgcaaa tgtgtaattt tagtgtacaa ttcgatgttt gggttttgtt 14520
tttgtttttg ttttttttggt tttttttgag acggagtctc gctccggctg gagtctcacc 14580
caggctggag tgcagtggtg tgaccttggc tcactgcaac ttcctccttc tagattcaag 14640
tgattctcat gcctcagcct cctgagtagc tgggattaca ggcatgtacc accatgccta 14700
gctaattttt gtattttttt ttttttttta gtagagatgg ggtttcacca tgttggccaa 14760
gctggtctca aactcctgac ttcacctgct tcggcctccc aaagtgctgg gattacaggc 14820
atgagccact gtgcccggcc tcaatgtatt tttacatata tttgtaccta tatatctgtc 14880
tatatgcaca ttcaaacaca tatccttcta actcccactc aggtcaagat acaaaagata 14940
tccaaaattg taaagagttc ctttttgccc cttcctagtc aaagaagggg taagtgctat 15000
tctgacttac ttaacaaaaa ataaccttga actggtagga ttttttgac ggtaggattt 15060
ttttgaccg gaagaagtaa ggaaaagagc aatacggatg tttaaaaatg agaaggtgag 15120
aatcttatag atgagtaggt ctctggtaca gaagtcttag tggagagttg gtactggaat 15180
cctggtctaa ggtattaggt tttaatttgc taaacaaaga gaactcaagc agtgctgtct 15240
aggagtgtta tgtaagctag attggacttt agagtcagga gaccatgcgg gaagatactg 15300
tgtgataagg gcctgaaaca tgttggttac agtgagacta gaaatgggat aaatccagag 15360
ctgtttcacc agtagacttg cctgaatatc ctgtctgact gagtatggat cagaaagaaa 15420
agaaggggtg atgggaaacg agcctagatt gactagagaa acctagaaat agaaaaatcg 15480
ggaaggcaaa gtgatttgaa tgataatgcc atatattcag ttgtccctgg tggccagata 15540
ttatagtata gatattatac aggcaaagaa gaacagaggg atagagtgtg aaggtacaga 15600
ttttgagttt aagcacatta gggggcttag tgttctggat gaagaaaacc tataaaagtt 15660
attgtatgtt aggtattgtt tgcaaaaagt agaaaatgga gaaataaccc agtgggttaa 15720
agaagaaaca gactaaataa acaaacctga gtaagttgtt cctaaatttt attttagaga 15780
caattcctca ttttgctta gttttctcaa ttattgcctc acttttctgt ttctttctgt 15840
gtcagcatac atggaagaag gagttaattt tagattcaaa acaaaaactg gaaaaaaaaa 15900
gtctgaaatg ggtaatacct aggacctagt atatatgtgt tattaaggct ctatccctga 15960
attttaatg cagttatcta tttttcatgg attctttgtt tattccccat aaggaacacc 16020
tgggtttgga gagtgggaag gtagatgaga aaacccaagt gacaaataat gtttagttta 16080
ttattagaac caactatgag ttgtgaccct tatcttctgc actgggaatt acagattttt 16140
ttcagggttt ttctaacgtg aaaagagttt attggtgtag gaaaacatct ggttccaaaa 16200
tatagatcat ccttattgag cccccatgatg cgttatctta atttttaaag cctttttgt 16260
ctcatactgg agtttattgt accccttaaa aatattaagt cacatattta acctgataaa 16320
agcaaaaatc attataaaaa tctttaggct gggtgtggtg cttatgctt gtaatcctca 16380
cgctttgaca ggccaaggtg ggtggattgc ttaaaaccca ggagttgtag accagcctgg 16440
gcaacatggt gaaaccccat ttctgcaaaa aatacaaaaa attagccagg catggtggca 16500
tgtacctgta atcccagcta ctcgagaggc tgaagtggga ggattgcttt agcttgggag 16560
ttcaaagctg cagtaagcca tgattgtgcc actctactcc agcctgggca acagagtgag 16620
accccatctc aaaaaaattt attaagttaa aatctttaac aataaagcaa tttggagtcg 16680
tattttgcga cattctcaat atagtttttcc aacttgcatt aaaatacatt ttaaacattt 16740
ttgaagacta aatttatttt tttttaactg acagttatgt ttcatttgac aaccttttgc 16800
tgtatatttt tatgtggact tttaggtatt gtagtgattc ctttaatgaa gaaataaaat 16860
aattgtcatt taaaaagtgc atattattat taccttatgc tataaaaata gttttaaaat 16920
```

2731

```
agaatatgtt tattaagatt taaaaataag tatagtcatg caccgcataa cagcgtttta 16980
gtcagactgc ataagattac gatggagctg aaaaattact gtcacacaaa tacttaccat 17040
tgtgttatca tttccataca ctggtcagta cagtaacata tatgctgtac aggtttgtag 17100
cctaggagca acaggctata cagcatagct taggtgtgta gtaggttata ccatctaggt 17160
ttgtgtaagt acactatcat gtttgtataa caacaaaatt gcccaacagc tcatttctct 17220
ttatgtatcc atgactgtat attttttatt gtggtaaaaa acacttaaca tgagacctac 17280
cttcttccac aaatttttaa gggtacaata tagtattgtt aactgtatgt acattgttat 17340
atagcagacc tctagaactt ttcatcttgc atgactaaaa ttatacccat tgaacagccc 17400
ctcccaattt tcgtctccct ctaacccctg gtaaccacca ttttactttc tgatttgatg 17460
agttttactg ttttagacac ctgatattag tggattcatg caatatttgt ccttctgtga 17520
ctggcttatt tcacttagtg taatgtcctc aagattcatc catgttgtag tatatgacgg 17580
gatttttttt aaggatacat aatatttggt tgtatgtata ttaccacatt tattttatcc 17640
attcaactgt cctggacatt taggtggttg ttagtgtctt gactgctgtg acaaaataag 17700
tacttttaaa agtctcacat ttgcaagttc aatttgaacc ttttttagt ctgcttgtac 17760
ttctcttatc aagcaagaaa gcacttttct gcttttgta ttactagtaa cagtggagat 17820
taaatatctc atgttttgg gcgttctaga gcccaacaca tcacctgttc ctttccatac 17880
taccacaact gacactctct ggaaagtgcc acctccctgc agcaggccaa ccagcacaaa 17940
aatagtacat taaaccagca aagctaagaa ccctcaaaga gtacatttca ccctcctacc 18000
gcctccactg gaacaggtgc tggtatccac agctgagaga cccacagatg gttcacatct 18060
cccgactctg tgcagactac cccccagtac cagcctggag cctggtagac ttgctgggtg 18120
gctggatcca gaagagagat agcaatcact acagctcagc tctcaggaag ccacatccat 18180
aggaaaaggg agagagtact acatcaaggg aacaccccgt aggacgaaag aatctgaaca 18240
acaaccttca gccctagaca ttctctctga cagagcctac ccaaatgaga aggaaccaga 18300
aaaccgaccc tggtagtatg acaaaagaag gttctttaac accccccaaa aaatcacact 18360
agctcaccag caatggatcc aaactaagaa gaaatccctg acttacttga aaaagaattc 18420
actaggttgg ttattaagct aaggcaccag agaaaggtga agcccaatgt aaagatataa 18480
aaaaaaaaaa agatacaaga agtaaaggga gaaatattca atgaactaga tagcataaat 18540
aaaaaacaat caaaacttta ggaaataatg gacatactta tagaaatata aaatgctctg 18600
gaaagtctta gcaatagaat tgaacaagta gaagaaggaa attcagagcc tgaagacaag 18660
gtcttctaat taaccgaatc caataaagac aaagaaaaaa gaataagaaa atatgaagaa 18720
agccttcaag aaatctggaa ttatgttaaa tgaccaaacc taagaataac cggcattcct 18780
gaggaagaag agaaatctaa acgtttgtta aacatatttg ggggaataat tgaggaaaac 18840
ttccccagct ttgctagaga cctagatgca aatacaagaa gcacaaagaa catctgggaa 18900
attcatcgca aaaagatcat catctaggca cattgtcgtc aggttatcta aagttaagat 18960
gaaagaaaga gctgtgaaac aaaagcacca ggtaacctat aaaggaaaac ttaccagatt 19020
aacagcacat ttctcagcag aaaccctgca agccagaagg gattggaacc ctatcttcag 19080
cctcctcaaa caaaacaatt atcagccgag aattttgtat tcagcaaaac taagcttcat 19140
atatgaaggc aagatacagc tttttcagac aaacagagaa ttcaccacta ccaagccaac 19200
agtgcaagaa tgctaaaagg aactctaaat cttgaaacaa atcctggaaa catagcaaaa 19260
cagaacctct ttaaagcata aatatcacag gacctataaa acaaaaatac aattagaaaa 19320
acaacaaaaa ccagaaaaac aaggtataca ggcaacaaat agcatgatga atagagtggt 19380
acctcacatc tcaatactaa cattgaatat aaatggccta aatgctccac ttaaaagata 19440
cagaattgca gaataggtaa gaattcacca accatctgtt gccttcaaga gtctcaccta 19500
acacataagg actcacataa acttaaggta aagggatgga ccaagacatt tcatgcaaac 19560
ggacaccaag tgtgagcagg agtagccatt cttatattag acaaaacaaa ctttaaagaa 19620
ccagcagttt aaaaagacaa agagggacat tatataatga aaaaaggcct tgtccaacag 19680
gaaagtatca caatcctaaa catatgcacc taacactgga gctcccaaat ttataaaaga 19740
attactaata gacctaaaaa attagacaga cagcaacaca ataatagtga gggatttttaa 19800
tactccactg acagcactgg acaggtcatc aagacagaaa gtcaacaaag aaacagtgga 19860
tttaaactat accttggaac aaatggagtt aaaagatata tacagaatat tccatccaac 19920
aaccacagaa tatacgttct gttcaacagc acatgaactt tctgtaagat agaccatatg 19980
atagccaaca aaatgagcct caataaattt taagaaaatt aaaattatat caagcactct 20040
ctcagaccac agtggaataa aactggaaat caactccaaa aggaaccttc aaaaccatgc 20100
cgatacgtgg aataacctgc tcctgaatga tcactgggtc aaagatgaaa tcaagatgga 20160
aatgtaaaaa ttcctcaaac tgaatgacaa tagtgacaca acctatcaac ctctgggata 20220
cagcaaaggt ggtgctaaga ggaaagttca tggccctcaa tgcctccatc aaaaagtcgg 20280
aaagagcaca atctacggtc acatctcaaa gaactagaga aacaagaaca aacccagcag 20340
aagaaagaag accagagcgg aattaaatga aattgaaaca aaacaacaaa aaaaatccaa 20400
aagataaatg aaacaaaaag ctggttcttt gaaaagataa ataaaattga tagactgtta 20460
gcaagatcag ccaagaaaag agagaaaatc caaataagct caataagaaa tgaaacggga 20520
gatattacaa ctgacaccac agaaatacaa aagatattca aggctactat gaacaccttt 20580
```

```
acatgcataa actagaaaac ctaaaataga tggagaaatt cctggaaaga tacaaccctc 20640
ctagcttaaa tcaggaagaa ttaccctgaa cagaccagta acaagcaggg agattgaaat 20700
ggtaattaaa aaattaccaa caaaaaaatg tccaggacta gacggattca caacagaatt 20760
ccaccagata ttcaaagaag acttggtacc agtcttaaag acactattcc acaagagaga 20820
gaaagaagga atcctcccta aatcattcta tgaagccagt atcaccctaa taccaaaacc 20880
aggaaaggac ataaccaaag aagaaaacta cagaccaata tccttgaaca tagatgctaa 20940
aatccttaag aaaattctag ctaactgatt ccaacaacat atcaaaaaga taatccacca 21000
tgatcaaggg gtttcatacc agggatgcag ggatggttta acatacacat gcgcgtagcc 21060
aaagcaagac taagcaaaaa gaacaaatct gaaggcatca cattacctga tttcaaactt 21120
atactataag gccatagtca ccaaaacagc atggtacggt tataaaaata ggcacatgga 21180
ccaatggaac agaatagaga acccagaaat aaacccaaat acttacagcc aactgatctt 21240
caacaaagca aacaaaaacg taaagtggaa aaaggatacc cttttcaaca aatggtgctg 21300
ggataattgg ctagccacat gtaggagaat gaaactggat cctcctctct cactgtatac 21360
aaaaatcaac ccaagataaa ttagagactt aaatctaaga cctgaaacta taaaaattct 21420
aaaagatacc attggaaaaa tcattctaga cattggctta ggcaaggatt tcatgaaccc 21480
aaaagcaaat gcaataaaca caaagataaa tagctgggac ttaattaaac taaagaactt 21540
ttgcacagca aaaggaacag tcagcagagt aaacagacaa cctacagaga aggagaaaat 21600
ctttcataat atatacatct gaaaaagaac aaatatccag aatctacaat gaactccaac 21660
aaatcagcaa gaaaagcagt cccatcaaaa agtgggctaa ggacatgaat agacaattct 21720
taaaagaaga tatacaaatg gccaataaac atatggaaaa atgctcaaca tcactaatga 21780
tcagggaaat gcaaatcaaa accacagtgc gataccacct tacttctgca agaatggcca 21840
taataaaaaa atcaaaaaaa tagtagatgt tggcatggat gtggtgaaca cggaacactt 21900
ctacactgct ggtgggaatg taaactagta caaccactat ggaaaacagt gtggagattc 21960
cttaaagaac taaaagtaga actatcattt ggtccagcaa tcccactact aggtatccac 22020
ccagaggaaa agaagtcatt atacgaaaaa gatacgtgca cacgcatgtt tatagcagca 22080
caattcgcaa ttgcaaaaac gtggaagcaa cccaaatgcc catcaatcaa tgcgtggata 22140
aagtaactgt gatatatata tacatacaat ggaatactcc tcagccataa aaaggagtga 22200
attaatggca ttcgcagtga cctggataag attggagact attattctaa gtgaaagaac 22260
tcaggaatgg aaaaccaaac atcgctatgt tctcactcat aagtgggagc taagctatga 22320
ggatgcaaag gcataagaat gacacaatga actttgggga ctcagggaga aagggtggga 22380
aggggatgag gaataaaaga caaaaattgg gtgcagtgta tactgctcag gtgatgggtg 22440
taccaaaatc tcacaaatca ccactaaaga agttaaccaa caccacctgt tccccagtaa 22500
cctatggaaa gaaagaaatg tctcatatgt ttctgcctaa attggtcttt aatactttag 22560
cgattctctt gagtttggat tataaaatag tttttggtctt tttgtatttt ctgctgtaag 22620
cctgtatgat tatgtaatgg tgagtaaaat tgctaggcca gatatgcagt tctaggaagt 22680
tatgcaaaga tgtgctttag tatattattt tctacctttt taaattcatt ttgagcttgg 22740
cttttgagcc tctgtttttcc aaggtggggt gtatgttttt ataatgttat gcttagccct 22800
tgtgtatttt catctctgag tttgaaattt ggggttatat tggcaaaggg aggtttgggt 22860
tttaattagg tgacctgtta gaggaaatgt taagcttctg tttctttagg gtagacagtg 22920
agagatttat caagataaag aagaaaaata aatcctagag ttaatattca atacatgatg 22980
atgtcaccct tactaaagcc aaagagggca ttatcctatc attctcatcg ctaagaactc 23040
ttctcctctt ggcacatgct tattcagtta aagataagcc aagcctttct tttgtatttt 23100
ttttttaaga gaacaaattt actttggttt tgagttttat tcctggccct gggtagctta 23160
ttttttttgac ccttattttc cccaatttat aaaatgaaat agttatcttc actccccagg 23220
attgttgtga agagtaagtc aaaagataaa atgaggtgac tcaggcaaaa gtacctggcc 23280
ctgtgtagtg agtacattgt atgtgttaca tatattctta ttgctgagaa tccacgaaag 23340
aatgaattaa ataatgagga cccttttcatc aggggtttttg agtgagtttt ttaaaataca 23400
aggtagtagt ttgtgtaaat actaaatcca ttggtacctg tgcagaatgt aggaaatgga 23460
gttgctaatt ccaaaaaaac agcacatatg ctgaggaaag tataatacct aatatatatg 23520
gtttaagcaa tgtaaaattc catgaatatg ttcctttttca tcttaaaatt tgtgatttaa 23580
aaaacattga tattactata aagaattatt gttatttccc ttgatttaca gagtattgtt 23640
acaatcacat ttgaagtacc aggaaatgca aaggaagaac atcttaatat gtttattcag 23700
gtgaatgcaa tttttaactg ataaatgatt tatcaatggt tttgttacat agttgttgct 23760
attagcgatg gttggtctta ttaaaatatg tcacttgata cagaatctcc tgtgggaaaa 23820
gaatgtgaga aacaaggaca atcactgcat ggaggtcata aggctgaagg tacagtttac 23880
tgttgcagac tttcggacaa agtcctttc ttggctgtta taaaaactat atttggtttt 23940
aaacagaaac actggtttta gtacaaatca tctttgtcta cttttcatttt tctttattat 24000
tttcatgact gaaaaggagc tttggaaatc actgcataag gcttgattta tttgcacaac 24060
tttctttagg gttgcagcta gaacaaacct gtgtgctttg aaatgttacc ttctgctctc 24120
tgttcccaag tacagagaaa taatgttgca aatctcactt ctgctgaaca ttatgcttcc 24180
tgatgcattt agcagacact aaacatttgt catactctaa acaaagttac aaaggactag 24240
```

2733

```
aagaattctt gttctgtatt tagaaaccca ctcacgttac ttgatatttg ggtatttaag    24300
tcatgaaagg tatttcttct aggaagcagt gattctaaag tgtatgctta accagtcagt    24360
tgagtgtcta ctcttgtgtg ttcacaagtg tgcacaaagt ttttggtaaa ttaagaatat    24420
tatttcaaat aaattaattt catccccata ggagccagtt tatcagataa ttcatttttc    24480
atttctgcaa atcaatacac aatgagctca tattcagata aatataatag tttttcttta    24540
tttcatcatt gttcattgat tgcaacccat ttctaaaaca aattatttaa tataatcaaa    24600
ctcctttaac ttctcaactt ttcccactaa aactgtgaaa cattatataa aatctttaat    24660
caataggata tgatacatat ttcatcattt tgtttcaggt tttggttgtg ataaataaca    24720
ctgaaaaacc atcctaatat atgtattaac tttatcatta gaaaagggga ttgttcaaaa    24780
aaaaatcaat acacagaaac cttttttgaa aattaaaaac attaagaaac ttcttgtaat    24840
tcacaaataa ttggaattaa gtaattttct cagcttaaga gtttgtattt tttaagtgaa    24900
tatcagtaat taatccatta acattgatgc tctatttctg cttttaagtt tgaactgagg    24960
ctgattaatg ttcagtcaat tctcctttga gcagggattg gtgtcaatca aagacaaatc    25020
acaacaagtg attgtccagg gtgtccatga gctctatgat ctggaggaga ctccagtgag    25080
ctggaaggat gacactgaga gaacaaatcg attggtcctc cttggtaagt ctgaaaggat    25140
tcacagtttt aaaacaaagt gaaaaatata tttgaaaggg atatcatgtg ccactcaaac    25200
agattaacca ttcaggtcct cttttaaaac taaataagct tgtggtcaat gtttcatctt    25260
tatcacgtta caacgttcgt aaaagcttgt taggactttt gttcttcttc agttttagaa    25320
aagtggttaa tccaaggacc aatgtgactt tgatgtactg acctggaaag ttaaagatgg    25380
aatcactcaa ttactattct ttttgtaaat ttctaaacac cataaagcat ttaatgaact    25440
ggaattgata ggtgaactgt gtcattttaa taagcataat gtaatcacgt catattttgt    25500
tttgtttgca ggcagaaatt tagataagga tatccttaaa cagctgttta tagctactgt    25560
gacagaaaca gaaaagcagt ggacaacaca tttcaaagaa gatcaagttt gtacataaca    25620
ctagaggcat ttcttatcaa aaggattgga taataaaaat aagtttctac tgggtatatt    25680
tcaagcattt atttattact ttagttacga attccaatat actttaaaat ggtatttgtt    25740
ttacagcata cataaaatgt agcaaatcgg tactgtaaaa catttaacat tcatacagtt    25800
atatataata tcctttttt taaagaatgg tatttcacaa aaatgtcttt tgaaattggc    25860
tttggagttt acatatactg aacatgaaag tttataataa tgatgataca actttcaaca    25920
ttgtcatttt ttcttagaac ttcagctgat tgcagagata taatgattac attgttatta    25980
aattttttta acacaagtaa gtgtcaccat tttatgacat gaaataaaag gttatgactg    26040
ttattgatgt tgatgttgac gacctgatca cctggctgaa ggagtgtttg tcaggtttct    26100
ccattgtaaa gttactcttt tcccccattt catactgtgc tctttggaag gaaatcacta    26160
tgcacagccc acactaaagg aatggggagt tgtagtgtac tttttttggga gtggtctaca    26220
taattaattg aaattcttct gcaaaggaca gttgtccctt tcgctttatt agttcgatca    26280
tttatgttta tcagtgtgga cacatgaata ttttatactt tgggttacaa tttaatactg    26340
ctttattttg ttgctcaaat tagcccagct ttgaccattg ggaactcttt ccgttatctc    26400
ctgttcccgc ctttgacatg cccccatcaa tgtgggttt                          26439
```

<210> 5808
<211> 568
<212> DNA
<213> Homo sapiens

<400> 5808
```
catatatttg tacctatata tctgtctata tgcacattca aacacatatc cttctaactc      60
ccactcaggt caagatacaa aagatatcca aaattgtaaa gagttccttt ttgccccttc     120
ctagtcaaag aaggggtaag tgctattctg acttacttaa caaaaaataa acttgaactg     180
gtaggatttt ttttgacggt aggattttt ttgacgggaa gaagtaagga aaagagcaat     240
acggatgttt aaaaatgaga aggtgagaat cttatagatg agtaggtctc tggtacagaa     300
gtcttagtgg agagttggta ctggaatcct ggtctaaggt attaggtttt aatttgctag     360
acaaagagaa ctcaagcagt gctgtctagg agtgttatgt aagctagatt ggactttaga     420
gtcaggagac catgcgggaa gatactgtgt gataagggcc tgaaacatgt tggttacagt     480
gagactagaa atgggataaa tccagagctg tttcaccagt agacttgcct gaatatcctg     540
tctgactgat tatggatcag aaagaaaa                                        568
```

<210> 5809
<211> 567
<212> DNA
<213> Homo sapiens
```

<400> 5809

```
catatatttg tacctatata tctgtctata tgcacattca aacacatatc cttctaactc      60
ccactcaggt caagatacaa aagatatcca aaattgtaaa gagttccttt ttgccccttc     120
ctagtcaaag aaggggtaag tgctattctg acttacttaa caaaaaataa ccttgaactg     180
gtaggatttt tttgacggta ggattttttt tgacgggaag aagtaaggaa aagagcaata     240
cggatgttta aaaatgagaa ggtgagaatc ttatagatga gtaggtctct ggtacagaag     300
tcttagtgga gagttggtac tggaatcctg gtctaaggta ttaggtttta atttgctaga     360
caaagagaac tcaagcagtg ctgtctagga gtgttatgta agctagattg gactttagag     420
tcaggagacc atgcgggaag atactgtgtg ataagggcct gaaacatgtt ggttacagtg     480
agactagaaa tgggataaat ccagagctgt ttcaccagta gacttgcctg aatatcctgt     540
ctgactgagt atggatcaga aagaaaa                                         567
```

<210> 5810
<211> 568
<212> DNA
<213> Homo sapiens

<400> 5810

```
catatatttg tacctatata tctgtctata tgcacattca aacacatatc cttctaactc      60
ccactcaggt caagatacaa aagatatcca aaattgtaaa gagttccttt ttgccccttc     120
ctagtcaaag aaggggtaag tgctattctg acttacttaa caaaaaataa ccttgaactg     180
gtaggatttt ttttgacggt aggattttttt ttgacgggaa gaagtaagga aaagagcaat     240
actgatgttt aaaaatgaga aggtgagaat cttatagatg agtaggtctc tggtacagaa     300
gtcttagtgg agagttggta ctggaatcct ggtctaaggt attaggtttt aatttgctag     360
acaaagagaa ctcaagcagt gctgtctagg agtgttatgt aagctagatt ggactttaga     420
gtcaggagac catgcgggaa gatactgtgt gataagggcc tgaaacatgt tggttacagt     480
gagactagaa atgggataaa tccagagctg tttcaccagt agacttgcct gaatatcctg     540
tctgactgat tatggatcag aaagaaaa                                        568
```

<210> 5811
<211> 568
<212> DNA
<213> Homo sapiens

<400> 5811

```
catatatttg tacctatata tctgtctata tgcacattca aacacatatc cttctaactc      60
ccactcaggt caagatacaa aagatatcca aaattgtaaa gagttccttt ttgccccttc     120
ctagtcaaag aaggggtaag tgctattctg acttacttaa caaaaaataa ccttgaactg     180
gtaggatttt ttttgacggt aggattttttt ttgacgggaa gaagtaagga aaagagcaat     240
actgatgttt aaaaatgaga aggtgagaat cttatagatg agtaggtctc tggtacagaa     300
gtcttagtgg agagttggta ctggaatcct ggtctaaggt attaggtttt aatttgctag     360
acaaagagaa ctcaagcagt gctgtctagg agtgttatgt aagctagatt ggactttaga     420
gtcaggagac catgcgggaa gatactgtgt gataagggcc tgaaacatgt tggttacagt     480
gagactagaa atgggataaa tccagagctg tttcaccagt agacttgcct gaatatcctg     540
tctgactgat tatggatcag aaagaaaa                                        568
```

<210> 5812
<211> 1106
<212> DNA
<213> Homo sapiens

<400> 5812

```
gctgatggag gaaatgtgcc tcacatgccg ggggcgctgg ggaggaggcg tctgggattt      60
tgtggttgaa taagacacct ggcctggccc tcctggagct tagtttagta ggtcacacaa     120
gcagtcattg gtaaatttgg gattcaaaca aatctgttag gctcaaacct gtctgttatt     180
tgtcctccaa gcttcatata aactgaggag ccttaaaggg taaaaacttc aggagcagca     240
aagtttcaaa aaaagatcag caagaaagct cttttccaga ttttatcctg aaggcactag     300
```

```
ctactttaag ctatttttta ttatattttg cccttgcagt tggcgtttga tttctcactg    360
aacattcgtt gtcataatta tagacactat gtgactatca agggcataat attctttcat    420
gctgcatttt tattagatgg cacctcaaag ttttcccaag taggtgggtt ttaaattatg    480
aatatatacc gtggcatagt atcttactta gtattttaat aagatcctta tttatataac    540
aaatattttt tttattcctc tgtagtgcta ctttagtctc tgagctaatt ttcatgaagc    600
caatctaaaa atcgtgttac ttctaaggat gtggagcgag tgagatgaac agttgtgctg    660
tcatattgcc cctccccagt gcagacagtg aatgaggacc cactgattta aaggcaacac    720
tgcagcccct tcttgcctca ttgaagtccc aagttttatt acagtaaaag cacttaatgt    780
tgacatttct gaaagaatga agaggccggg cgcggtggct cacgcctgta atcccagcac    840
tttgggaggc tgaggcaagc ggatcatgag gtcaggacat cgagaccatc ctggctaaca    900
cggtgaaacc ccgtctctac taaaaataca aaaaattag ccgggcgtag tggcgggcgc    960
ctgtggtccc agctactcgg gaggctgagg cgggagaatg gcgtgaaccc gggaggcgga   1020
gcttgcagtg gtccgagatt gtgtcactgc actccagcct gggcgacaga gcgacaacgt   1080
ctcaaaaaaa aaaaaaaaaa aaaaaa                                        1106


<210> 5813
<211> 595
<212> DNA
<213> Homo sapiens

<400> 5813
ttagtgttct ggatgaagaa aacatataaa agttattgta tgttaggtat tgtttgcaaa     60
agagtagaaa atggagaaat aacccagtgg gttaaagaag aaacagacta aataaacaaa    120
cctgagtaag ttgttcctaa attttatttt agaggcaatt cctcattttg ctttagtttt    180
ctcaattatt gcctcacttt tctgtttctt tctctgtcag catacatgga aaaaggagtt    240
aattttagat tcaaaacaaa aactggaaaa aaaaagtctg aaatgggtaa tacctaggac    300
ctagtatata tgtgttatta aggctctatc cctgaatttt taatgcagtt atctattttt    360
catggattct ttgtttattc cccataagga acacctgggt ttggagaatg ggaaggtaga    420
tgagaaaacc caagtgacaa agaatgttta gtttattatt agaaccaact atgagttgtg    480
acccttatct tctgcactgg gaattacaga ttttttcagg gttttttctaa cgtgaaaaga    540
gtttattggt gtaggaaaac atctggttcc aaaatataga tcatccttct tgagc         595


<210> 5814
<211> 178
<212> DNA
<213> Homo sapiens

<400> 5814
ccaactatca agagaaattt caacatagaa atttatttag taagttttac ttgacacagg     60
agccttcata aaacatacct gtgtatgttt tctgttagtt atgatatgga agaggatagt    120
aatggagaag cataattaga taaaacagta tgatctaata ataaactggg aagaactt      178


<210> 5815
<211> 596
<212> DNA
<213> Homo sapiens

<400> 5815
ttagtgttct ggatgaagaa aacctataaa agttattgta tgttaggtat tgtttgcaaa     60
aaagtagaaa atggagaaat aacccagtgg gttaaagaag aaacagacta aataaacaaa    120
cctgagtaag ttgttcctaa attttatttt agagacaatt cctcattttg ctttagtttt    180
ctcaattatt gcctcacttt tctgtttctt tctgtgtcag catacatgga aaaaggagtt    240
aattttagat tcaaaacaaa aactggaaaa aaaaagtctg aaatgggtaa tacctaggac    300
ctagtatata tgtgttatta aggctctatc cctgaatttt taatgcagtt atctattttt    360
catggattct ttgtttattc cccataagga acacctgggt ttggagagtg ggaaggtaga    420
tgagaaaacc caagtgacaa ataatgttta gtttattatt agaaccaact atgagttgtg    480
acccttatct tctgcactgg gaattacaga ttttttttcag ggttttttcta acgtgaaaag    540
agtttattgg tgtaggaaaa catctggttc caaaatatag atcatcctta ttgagc        596
```

```
<210> 5816
<211> 595
<212> DNA
<213> Homo sapiens

<400> 5816
ttagtgttct ggatgaagaa aacatataaa agttattgta tgttaggtat tgtttgcaaa      60
agagtagaaa atggagaaat aacccagtgg gttaaagaag aaacagacta aataaacaaa     120
cctgagtaag ttgttcctaa attttatttt agaggcaatt cctcattttg cttcagtttt     180
ctcaattatt gcctcacttt tctgtttctt tctgtgtcag catacatgga aaaaggagtt     240
aattttagat tcaaaacaaa aactggaaaa aaaaagtctg aaatgggtaa tacctaggac     300
ctagtatata tgtgttatta aggctctatc cctgaatttt taatgtagtt atctattttt     360
catggattct ttgtttattc cccataagga acacctgggt ttggagaatg ggaaggtaga     420
tgagaaaacc caagtgacaa ataatgttta gtttattatt agaaccaact atgagttgtg     480
acccttatct tctgcactgg gaattacaga ttttttcagg gttttttctaa cgtgaaaaga     540
gtttattggt gtaggaaaac atctggttcc aaaatataga tcatccttct tgagc          595


<210> 5817
<211> 595
<212> DNA
<213> Homo sapiens

<400> 5817
ttagtgttct ggatgaagaa aacatataaa agttattgta tgttaggtat tgtttgcaaa      60
agagtagaaa atggagaaat aacccagtgg gttaaagaag aaacagacta aataaacaaa     120
cctgagtaag ttgttcctaa attttatttt agaggcaatt cctcattttg cttcagtttt     180
ctcaattatt gcctcacttt tctgtttctt tctgtgtcag catacatgga aaaaggagtt     240
aattttagat tcaaaacaaa aactggaaaa aaaaagtctg aaatgggtaa tacctaggac     300
ctagtatata tgtgttatta aggctctatc cctgaatttt taatgtagtt atctattttt     360
catggattct ttgtttattc cccataagga acacctgggt ttggagaatg ggaaggtaga     420
tgagaaaacc caagtgacaa ataatgttta gtttattatt agaaccaact atgagttgtg     480
acccttatct tctgcactgg gaattacaga ttttttcagg gttttttctaa cgtgaaaaga     540
gtttattggt gtaggaaaac atctggttcc aaaatataga tcatccttct tgagc          595


<210> 5818
<211> 178
<212> DNA
<213> Homo sapiens

<400> 5818
ccaactatca agagaaattt caacatagaa atttatttag taagttttac ttgacacagg      60
agccttcata aaacatacct gtgtatgttt tctgttagtt atgatatgga agaggatagt     120
aatggagaag cataattaga taaaacagta tgatctaata ataaactggg aagaactt       178


<210> 5819
<211> 8970
<212> DNA
<213> Homo sapiens

<400> 5819
acgggatggg attcttgtca cggcgcacgt tctgtgggcg gagtgggcgg agctgccggg      60
gtcagttggt ccaagtgtcc cggcctgagg tgtcggccgg atccctcctt ctcccggcgc     120
ctcaagcgga aggtgagggc cgtcccgggc agcggagggc ctggccccag gcgactagag     180
ctgcatcctc agtacctccg agggcctgga gggcggggcg ggctggacgc ggccctgcgc     240
accggggggcc cgggaggagc ggtctcgggc ctgggtattt ggtgggcggc ggaggcctgg     300
ctcccggcag aacccttgcg cgacctcttt ttctcctgtt ttcgttgtca ggcccaggcg     360
```

2737

```
ttctttggga gagggacctc tcgcggtccc tgacgcagac atcgtgtagc tttctccccg   420
cagctcctgg gtcgggagcc gctttgcagc tctcggctct ggaattggac tgcgggaggg   480
gcgtttgggt ggaatgggac ctggcacgcc tggaccttcc cgtggctgct ctgcgagagc   540
ctgagagatg ggaggggagg ctgaggtggg gagggagcct agagagccgt aaaataagga   600
ttggaccatt tttccaggcg gcgaaagcgg cacctgggtt tgtttcctga tcgtcttctc   660
ccccagagtc ctgctgaaca agttttggga agaaaggttt ggaaaggaga aagaggatac   720
attcctgaaa ggcagggctt ctgttataca gtgtgtcaac ctcacactat tacgcaacaa   780
taaggacaga tgccattcca ggttgccaac acgtttncta tgcccgagga cccaaagctg   840
tgcccatgta ttctggtacc tctattcctg attaaaatca gtgtagctag ccattctctg   900
agagtatagc ttccatttaa atcctcattt ggccaaacag ttccttgatc ttgtggaatt   960
tgaaactgga tttatttaac caggacaagt caaaggagaa cttgaacaga tctgaacaga  1020
cattatattg aagttccgta gcttgaaggg aatggagttt attttcagtt gcttagtaaa  1080
gattccagag gagtttgaca tcagtggtag caaaatgttt ggcaaactta agattagggc  1140
catattaaag ttttttccat tgcataatgg aaaaagcatg gactgtgaag ttagacctgg  1200
gttcaaattc ttggtagaga cattggctgt gaaacctctg aaacagcttt tctgaaagat  1260
atatagactt tctgaaattt agtgtccata tctgtaaatt gcagtttcct tctgttgatt  1320
tgatgaaata acatatgcaa agcatttagc acattaatgc acgaagacat tattttagca  1380
gtcttagtag ttctccagta tgacagatgg tgaaatcaat tttagatgca gaaaagttga  1440
gtggctgaag atggacgggt attaggaaaa agtctcaaaa tctgcaggct cagatgtgac  1500
aatagttgtg gtggaatggt ggaaaaaaca ctgggcattt gttgtagtct ggccctgtt   1560
gctaactact tctgtggtct tcagtaagcc attgtcatct ttggccttga ttttgtaaaa  1620
tgaagcagct ggaccagatg gtttttcttta aattctttct gttgcccaaa ttagagctaa  1680
aaggtagaga agacgatagc agacatttat tgaataccta ctatgtacta ggtactgttg  1740
ccaacacatt gtatctatcc actcattctc acaacaaacc catgagatac gtacggttat  1800
tatccacatt ttacaaatga ggaaacttaa ggccgaggtg ttaaccttgc ccagggttcc  1860
agagcttata aattgcagag ctaggatttg aatccaggta atctgaatcc atattgttaa  1920
tcattgtgcc aggctgcctc ttgaggagag tgatattgtg gatattgtac actattagag  1980
ataactgtaa aataagatag gggcatattt ggtaagatga tcgtctttgg tcacaggtgt  2040
gtgtgcatgg caaaaattat ttaattaaat gaatcttgtc ccaatgtttg ccacatttcc  2100
tggtttgtat tctctctatg cgttctgcct cctggactta aataatcaaa aaagtaattc  2160
tagattccct tccactaacc aaggctagat acccgaattt actgtgtttt ttgagaaacc  2220
tttgaaaggt ctgacctagc catacatcag agctgaagaa tctcagcgaa ccatgtccat  2280
ttctgggta aggtggttta ggataggcag agcagcctca gcgccccaaa ttcatttcag  2340
tgttcccacg cttgagcaga cttggtctta attttctcgt ttttcatcag atttgcgttt  2400
atatatagga gcagaaggag ttgaaagtga actcttaaga gcatatttga catggaatta  2460
gattgatgtt atagcaacta taggtaaaaa aggattttat agttgaaaaa tttgaaaagc  2520
tcagtattaa gtatctgtta tgatgtagta ctgtgttaat gtagactttg ggcagtttgg  2580
ggatcaatac tattttaaaa gaaaaaatcc atggctaaaa tactttgaca taaagaactc  2640
agcaagtctt ttgatcccat atgtcaaaca aatcagttta ttgccctaaa tctactgaaa  2700
gactttgaat acatattaat acaatagtag cattttgaga tgggtctatt tgatcacatc  2760
acaataaaat acaattgctt cttgttcttt tgtcgtggaa aggcagcagg taatgctgtg  2820
gtccactgta ctaaagagta atgcccttat gcgtagggct gccagataca gtgggcggtt  2880
tttttcactgt gcaacacttg ggatgcaatc ttacgtagac tgtggtgtga attgtgctct  2940
ctcgcgttgt atacccttat agcactgttc ttgtggcact acttttgtgc tcctgcctct  3000
accctaatct tgagtgtaag agtaattttt cctttaataa gccctctcca ccctgttttt  3060
ctgctttttta ttttctttca cttttttcaga tgaagtcaca ctgttgctaa accatgcata  3120
ggttttctat tgtttgaatt atatgtggtc agaatttcag aaactggctt cttttttcttt  3180
acctcttata ttggtgagtt tggaatactt gtgtttttgc agactttttg gtttaattta   3240
aatattagtc tgaaacataa gcaaaagaag actaccctat cactgtatta tatctgactt  3300
caaaatcagc tgtgtcgatt ttctgattat ctgttgcttt ggcttgtata tcttataact  3360
cttcttagct atcatgaaaa ttcgttctag ctgtagcctt aacatcattg gatatgagaa  3420
atttgaagca cttttaattt attatttagc aaagacagat gccaaattgc agcttactct  3480
tgctgagcac tcccacgatc acttttgctt ttggctgttg cctctctcat cttactcaga  3540
cctctttttag ctggatcagt ggttgaaatg gtatgaaaag agaatgactg tagtacctgg  3600
ttacagatgt gcttctctgt cagggaaatg tcaaatcaag ttttcactga cactcttcct  3660
cttcaattat agttaaagag acatgttgat tcaatggaga ggaatagttt ttggagtgtg  3720
gtctttaaat actacagtag gctgaataac ttttaaaaaa agaattgttg gaaaaatttt  3780
agtaatctga aatgcagaga acctgagaat taaataatgt gaaaagagg tcgggcagag  3840
caactttaaa tgcggtttag ataaggggaa agatgctaga agacttggag taggtttatt  3900
cagcattatt aaattaattg tataccattt gtagttaatt atttaataat gttatacaag  3960
ggatatttcg tatttttttc tagactagtg agtgctatct aacttgaact ataaacttga  4020
```

```
agtttatgta tatgtacact gggcattta atttgaagtt catgttagta tctaaagtgt   4080
aacaggattt atgtagatgt acactgggca ttttcaaatt tcatgttagt atctgaagta   4140
caacaagatt tgtattaaca gctgtgagag aatgtgtaat acactgatat ctctattgtg   4200
attctagttc tagtatgtag atatccttat ttaataggtc tgctttctac tgtttaagat   4260
acggaggcat aacaatgcct tgggcataga agatattcag taaatacttg ttgaaagaat   4320
aacactgaca ggtctaggtt gcttcaatgt agtagattag attggttaac aaatctgttt   4380
tcagtaataa tctggtgaca ttatttaata tattttgaac atattgaatg aaatgattgt   4440
tagcaatgga gcagaacatg tttatagaa attttttgtt ctaatattta gaagtcttca   4500
ttgtaataat aaaatgttag tatttatta cttatttaca tcctgattag tctgttttta   4560
tttaaccctg actaggagct gatgaatgga cattttttca tttattccat attaatattt   4620
tagatggtct agtatttatc ttttgaattt tatttgtaaa aaattaaaca gtatatgtaa   4680
agcaatactt taatgaagaa gaatatttga aacaatttta tcttcatcca taccgtcatc   4740
cttaatatca gagcattttt tcattttcat gtttttatg catatttata tatatttcac   4800
ataatttaca tcagtgaata tacaatttta tacacatttt ttcatgtagt atagtcataa   4860
ttattttcag tagccactcc attagaaatt ataactgtac tcaggaggct gaggaaagag   4920
gattgcttgg gtccaggagt ttaatacaga ctgggcaact tggcaagacc ctcatttcta   4980
aataaataaa taaaaatatg tcttcttaaa aagaaaatca caactgtaat ttaccagact   5040
ttgagtgggc agttatgttg tttctgattg acttcattgt aaataaaatt gaagtgattt   5100
ttatgtatat aactttcttt gcattattgt ccttagccta aatttccaag gtaaaatact   5160
cagttaaaaa agatgtaaat gtttttatga atcttattat catactgctt tccaaaaaga   5220
ttacatattt aaaatttgtg tccagtgttt gtgtatttgt ttttccataa ctctttgcta   5280
gtattgatca ttatctcctt taaaaataat aactgtacgg tggtatttat gtattttttg   5340
attatcaaga agctcaacat tttctcaaac tatttatatc ctttgcttat ttacccatta   5400
ggcatttatt ttattcttag taaagcatat gaaaagtcct actatgtcat agttaacaaa   5460
atcatcctcc tttgaaaaac aggcttatag tttattgctg tatgtgtcta tatttctgaa   5520
ttttttcttat tgtagaccat tcctcaagaa ttttgtatcc aaggcccaaa agtttgttac   5580
ccaagatgat gaatgctgac atggatggta tgttcttcat tttcttttt gtatactcct   5640
ggttttgtgg atgcttttgc tttattaagc aatggaaagg gcagagaaac catgtttaga   5700
agactttgat cttggctaat tacttatta tatctcatct agtgttagaa aggaccaacc   5760
aaagcagctt ccattcctta gctatgagag gttggcaagt tgtttttatc ttctttacct   5820
tggtggtatt atctgcaatt tggggataca aaattttatt tcacagggct cttgtataag   5880
tcaagtaaga atgaatataa aacatttgc agattttaa gtgctaccct acacaaatgt   5940
acctaatgct aattaatagt aaatttgaac ctttatatta cagcagttga tgctgaaaat   6000
caagtggaac tggaggaaaa aacaagactt attaatcaag tgttggaact ccaacacaca   6060
cttgaaggtt ggcttgcatt ttgtagttta tttgaatgac agccaattaa ttgaacttgt   6120
aaacatttat attgctaaat tttgtttgtt aggatgtata attttaaaa gaatgaactt   6180
caaagtacac acatatatat atctatcttc ctgctttggt agtttaaaga acagatacac   6240
ttcagtcaag tcaaatgttg ttattgtgct tccctctttg aagcctaaca taatgctggc   6300
tagtatgaga cccccttta agtccccata atgtgttact aagtccgctt taataaagct   6360
tattttaaag taaaaacaat gtattagcct tggagattaa aaaggaattc atctgaattt   6420
tttcattttc taaatcttgc ataaaattaa tacactgaaa catcttttga gttttaatga   6480
aattaagagg ttgtgttttt ggtgccacag tgagcagatc atgtcactca gaacctccca   6540
ctgatttaca ttttacagag ttaataaaag tcatctgtga cttccctatt agctttcttt   6600
ttcttttct tttttttttt ttttttttg agatggagtt cactcttgtt gcccaggttg   6660
gagtgcaatg gcgcaacctc ggctccctgc aacctctgcc tcccaggttc aagcgattct   6720
cctgtctcag cctcccgagt agctgggatt acaggcacct gctaccatgc ctagctaatt   6780
tttttgtatt tttagtagag atagggtttc actatgttgg ccaggctggt ctcaaactcc   6840
tgacctcatg atccacccgc ctcggcctcc caaagtgctg ggattacagg tgcgagccac   6900
cgtgcccagc cggaattaac ctcttatgtg atcatcagga actgcatgtg ttcaatgtct   6960
tgataatgtt acaatacaag atgataagtt gcttggaaac tgactgcctg tattcagtat   7020
atgaattcag ttgtgttaac ctgatatata tcttaaacat ttctagtaaa gatgttatag   7080
ttttatgttg ataagacatg aaccaaaatt cacattttaa aaacaaagtc ttttttaaaaa   7140
attactcaac attaatgcta tttatgaaga atagcattta gtctaatgtg aaatatcttt   7200
ttaggaattt gtctactaat ttgtactcag tttgtttacc ttgctgtctc taaaatccga   7260
attcttaaaa tttaaggatt gtattatttc ttttaagaat gaatcctaag aattttgtaa   7320
tatggaatca ttgtcattgt tttattgata atgggcattt ttattttta tatagatctc   7380
tctgcaagag tagatgcagt taaggaagaa aatctgaagc taaaatcaga aaaccaagtt   7440
cttggacaat atatagaaaa tctcatgtca gcttctagtg ttttcaaac aactgacaca   7500
aaaagcaaaa gaaagtaagg gattgacacc cttctgtttt atggaattgc tgctgatcat   7560
tttttcttta aaatttggat agattccaaa agttacagta cctttgtggc ttcattgaat   7620
atttatgaag ataatgtcag atgtagacaa aaataacaca ataacaggag acttccataa   7680
```

2739

```
gtttgtgtat  tatgttagtc  tatgaaaacg  tgcaaatgta  ttgtagagac  tttatgatta      7740
gaattgcata  tatttatgaa  acttaaagat  gaatgtttta  ttgaatttgt  aggtttagca      7800
ctgtctttta  ttataggatt  agtaagatat  acaagaaaat  aaccaccgtg  ttgtgaaaaa      7860
gtgaccaaaa  tcatgtacta  aatgcacagc  tttatgtacc  ctgtccacca  tcttgtgcct      7920
cttctccatt  tgcctcttcc  ttcctatttc  ccttccgcta  aggaaaaaaa  ttggtgtcac      7980
atttgtaaaa  gtaattttaa  tagttaatca  tctctgagag  taacctgtat  tttaattgtt      8040
gaaacttaac  caaaataaga  tactgtctca  gctagggctt  gtcatttgtg  tatttagtgt      8100
taagatagga  atgctagtgt  ctctttaatt  aattggaaat  agatggaggc  taaaaatgaa      8160
ggtttttctt  tgaaactgaa  ttaacttggg  aatatttgtt  gttaaaaact  tcttttttgcc     8220
caaaataact  cattttgtat  tatctgaaaa  tatataattt  ctggtcatgt  gtatgttaaa      8280
atagaaaatt  ttgaggaaaa  atggaaatag  ggtggaaaag  tactcggtaa  acagtagtaa      8340
ccaaatattt  tcactccaga  tttgtgtttt  ctctggcaca  gagtagatct  tttgggaaat      8400
atatatgaaa  gtggattaag  tttgactacc  cttatgttag  ccacatctgg  atgagaacag      8460
ttacaaagag  tttggtctct  aagttgattt  gtacccagtg  ggtcaacttc  tgcaaaattc      8520
cgtaatggtg  tattagtatt  agaatagtga  ataaaatggg  aaagttatac  atgtatactt      8580
attatcttgc  tcagtatttt  atctcacttg  ttctagaatt  ttctgtaaac  cctgctactg      8640
ggtttgaaga  gtttttagtca  tcctttaaca  attttttaaaa  atttagcttc  tagattccat    8700
ttggtaagga  aatcaatatt  ggaagtattg  ctaaaatctt  ataatatgaa  aagagatcca      8760
ctaatgtagc  ttaaggttat  tagatttggg  cttttaatca  tggaataatc  ttatgtattg      8820
gtgtaagagt  tgatgaatga  ctttagctgt  gtgaatatat  aatagtcaaa  ctgcaaacat      8880
tttgcatccc  ttttgtgacc  taatttacag  acatttaaat  tgtgttgcag  ttctgctttg      8940
ccgtttaata  aaaagctatt  tcagaggttg                                           8970
```

<210> 5820
<211> 8971
<212> DNA
<213> Homo sapiens

<400> 5820

```
acgggatggg  attcttctca  cggcgcacgt  tctgtgggcg  gagtgggcgg  agctgccggg       60
gtcagttggt  ccaagtgtcc  cggcctgagg  tgtcggccgg  atccctcctt  ctcccggcgc      120
ctcaagcgga  aggtgagggc  cgtcccgggc  agcggagggc  ctggccccag  gcgactagag      180
ctgcatcctc  agtacctccg  agggcctgga  gggcggggcg  ggctggacgc  ggccctgcgc      240
accgggggcc  cgggaggagc  ggtctcgggc  ctgggcattt  ggtgggcggc  ggaggcctgg      300
ctcccggcag  aacccttgcg  cgacctcttt  ttctcctgtt  ttcgttgtca  ggcccaggcg      360
ttctttggga  gagggacctc  tcgcggtccc  tgacgcagac  atcgtgtagc  tttctccccg      420
cagctcctgg  gtcgggagcc  gctttgcagc  tctcggctct  ggaattggac  tgcgggaggg      480
gcgtttgggt  ggaatgggac  ctggcacgcc  tggaccttcc  cgtggctgct  ctgcgagagc      540
ctgagagatg  ggaggggagg  ctgaggtggg  gagggagcct  agagagccgt  aaaataagga      600
ttggaccatt  tttccaggcg  gcgaaagcgg  cacctgggtt  tgtttcctga  tcgtcttctc      660
ccccagagtc  ctgctgaaca  agttttggga  agaaaggttt  ggaaaggaga  aagaggatac      720
attcctgaaa  ggcagggctt  ctgttataca  gtgtgtcaac  ctcacactat  tacgcaacaa      780
taaggacaga  tgccattcca  ggttgccaac  acgttttcta  tgcccgagga  cccaaagctg      840
tgcccatgta  ttctggtacc  tctattcctg  attaaaatca  gtgtagctag  ccattctctg      900
agagtatagc  ttccatttaa  atcctcattt  ggccaaacag  ttccttgatc  ttgtggaatt      960
tgaaactgga  tttatttaac  caggacaagt  caaagcagaa  cttgaacaga  tctgaacaga     1020
cattatattg  aagttccgta  gcttgaaggg  aatggagttt  attttcagtt  gcttagtaaa     1080
gattccagag  gagtttgaca  tcagtggtag  caaaatgttt  ggcaaactta  agattagggc     1140
catattaaag  ttttttccat  tgcataatgg  aaaaagcatg  gactgtgaag  ttagacctgg     1200
gttcaaattc  ttggtagaga  cattggctgt  gaaacctctg  aaacagcttt  tctgaaagat     1260
atatagactt  tctgaaattt  agtgtccata  tctgtaaatt  gcagtttcct  tctgttgatt     1320
tgatgaaata  acatatgcaa  agcatttagc  acattaatgc  acgaagacat  tattttagca     1380
gtcttagtag  ttctccagta  tgacagatgg  tgaaatcaat  tttagatgca  gaaaagttga     1440
gtggctgaag  atggacgggt  attaggaaaa  agtctcaaaa  tctgcaggct  cagatgtgac     1500
aatagttgtg  gtggaatggt  ggaaaaaaca  ctgggcattt  gttgtagtct  tggccctgtt     1560
gctaactact  tctgtggtct  tcagtaagcc  attgtcatct  ttggccttga  ttttgtaaaa     1620
tgaagcagct  ggaccagatg  gtttttctttta  aattctttct  gttgcccaaa  ttagagctaa    1680
aaggtagaga  agacgatagc  agacatttat  tgaataccta  ctatgtacta  ggtactgttg     1740
ccaacacatt  gtatctatcc  actcattctc  acaacaaacc  catgagatac  gtacggttat     1800
tatccacatt  ttacaaatga  ggaaacttaa  ggccgaggtg  ttaaccttgc  ccagggttcc     1860
```

```
agagcttata aattgcagag ctaggatttg aatccaggta atctgaatcc atattgttaa    1920
tcattgtgcc aggctgcctc ttgaggagag tgatattgtg gatattgtac actattagag    1980
ataactgtaa aataagatag gggcatattt ggtaagatga tcgtctttgg tcacaggtgt    2040
gtgtgcatgg caaaaattat ttaattaaat gaatcttgtc ccaatgtttg ccacatttcc    2100
tggtttgtat tctctctatg cgttctgcct cctggactta aataatcaaa aaagtaattc    2160
tagattccct tccactaacc aaggctagat acccgaattt actgtgtttt ttgagaaacc    2220
tttgaaaggt ctgacctagc catacatcag agctgaagaa tctcagcgaa ccatgtccat    2280
ttctggggta aggtggttta ggataggcag agcagcctca gcgccccaaa ttcatttcag    2340
tgttcccacg cttgagcaga cttggtctta attttctcgt ttttcatcag atttgcgttt    2400
atatatagga gcagaaggag ttgaaagtga actcttaaga gcatatttga catggaatta    2460
gattgatgtt atagcaacta taggtaaaaa aggattttat agttgaaaaa tttgaaaagc    2520
tcagtattaa gtatctgtta tgatgtagta ctgtgttaat gtagactttg ggcagtttgg    2580
ggatcaatac tattttaaaa gaaaaaatcc atggctaaaa tactttgaca taaagaactc    2640
agcaagtctt ttgatcccat atgtcaaaca aatcagttta ttgccctaaa tctactgaaa    2700
gactttgaat atatattaat acaatagtag cattttgaga tgggtctatt tgatcacatc    2760
acaataaaat acaattgctt cttgttcttt tgtcgtggaa aggcagcagg taatgctgtg    2820
gtccactgta ctaaagagta atgcccttat gcgtagggct gccagataca gtgggcggtt    2880
ttttcactgt gcaacacttg ggatgcaatc ttacgtagac tgtggtgtga attgtgctct    2940
ctcgcgttgt atacccttat agcactgttc ttgtggcact acttttgtgc tcctgcctct    3000
accctaatct tgagtgtaag agtaattttt cctttaataa gccctctcca ccctgttttt    3060
ctgcttttta ttttctttca ctttttcaga tgaagtcaca ctgttgctaa accatgcata    3120
ggttttctat tgtttgaatt atatgtggtc agaatttcag aaactggctt cttttttctt    3180
acctcttata ttggtgagtt tggaatactt gtgtttttgc agacttttg gtttaattta     3240
aatattagtc tgaaacataa gcaaaagaag actaccctat cactgtatta tatctgactt    3300
caaaatcagc tgtgtcgatt ttctgattat ctgttgcttt ggcttgtata tcttataact    3360
cttcttagct atcatgaaaa ttcgttctag ctgtagcctt aaaatcattg gatatgagaa    3420
atttgaagca cttttaattt attatttagc aaagacagat gccaaattgc agcttactct    3480
tgctgagcac tcccacgatc acttttgctt ttggctgttg cctctctcat cttactcaga    3540
cctcttttag ctggatcagt ggttgaaatg gtatgaaaag agaatgactg tagtacctgg    3600
ttacaggtgt gcttctctgt cagggaaatg tcaaatcaag ttttcactga cactcttcct    3660
cttcaattat agttaaagag acatgttgat tcaatggaga ggaatagttt ttggagtgtg    3720
gtctttaaat actacagtag gctgaataac ttttaaaaaa agaattgttg gaaaaatttt    3780
agtaatctga aatgcagaga acctgagaat taaataatgt gaaaaagagg tcgggcagag    3840
caactttaaa tgcggtttag ataaggggac agatgctaga agacttggag taggtttatt    3900
cagcattatt aaattaattg tataccattt gtagttaatt atttaataat gttatacaag    3960
ggatatttca tatttttttc tagactagtg agtgctatct aacttgaact ataaacttga    4020
agtttatgta tatgtacact gggcatttta atttgaagtt catgttagta tctaaagtgt    4080
aacaggattt atgtagatgt acactgggca ttttcaaatt tcatgttagt atctgaagta    4140
caacaagatt tgtattaaca gctgtgagag aatgtgtaat acactgatat ctctattgtg    4200
attctagttc tagtatgtag atatccttat ttaataggtc tgctttctac tgtttaagat    4260
acggaggcat aacaatgcct tgggcataga agatattcag taaatacttg ttgaaagaat    4320
aacactgaca ggtctaggtt gcttcaatgt agtagattag attggttaac aaatctgttt    4380
tcagtaataa tctggtgaca ttatttaata tattttgaac atattgaatg aaatgattgt    4440
tagcaatgga gcagaacatg ttttatagaa attttttgtt ctaatattta gaagtcttca    4500
ttgtaataat aaaatgttag tatttattta cttatttaca tcctgattag tctgttttga    4560
tttaaccctg actaggagct gatgaatgga catttttca tttattccat attaatattt      4620
tagatggtct agtatttatc ttttgaattt tatttgtaaa aaattaaaca gtatatgtaa    4680
agcaatactt taatgaagaa gaatatttga aacaatttta tcttcatcca taccgtcatc    4740
cttaatatca gagcattttt tcattttcat gttttttatg catatttata tatatttcac    4800
ataatttaca tcagtgaata tacaatttta tacacatttt ttcatgtagt atagtcataa    4860
ttattttcag tagccactcc attagaaatt ataactgtac tcaggaggct gaggaaagag    4920
gattgcttgg gtccaggagt ttaatacaga ctgggcaact tggcaagacc ctcatttcta    4980
aataaataaa taaaaatatg tcttcttaaa aagaaaatca caactgtaat ttaccagact    5040
ttgagtgggc agttatgttg tttctgattg acttcattgt aaataaaatt gaagtgattt    5100
ttatgtatat aactttcttt gcattattgt ccttagccta aatttccaag gtaaaatact    5160
cagttaaaaa agatgtaaat gtttttatga atcttattat catactgctt tccaaaaaga    5220
ttacatattt aaaatttgtg tccagtgttt gtgtatttgt ttttccataa ctctttgcta    5280
gtattgatca ttatctcctt taaaaataat aactgtacgg tggtatttat gtatttttg     5340
attatcaaga agctcaacat tttctcaaac tatttatatc ctttgcttat ttacccatta    5400
ggcatttatt ttattcttag taaagcatat gaaaagtcct actatgtcat agttaacaaa    5460
atcatcctcc tttgaaaaac aggcttatag tttattgctg tatgtgtcta tatttctgaa    5520
```

2741

```
tttttcttat tgtagaccat tcctcaagaa ttttgtatcc aaggcccaaa agtttgttac    5580
ccaagatgat gaatgctgac atggatggta tgttcttcat tttctttttt gtatactcct    5640
ggttttgtgg atgcttttgc tttattaagc aatggaaagg gcagagaaac catgtttaga    5700
agactttgat cttggctaat tacttatttta tatctcatct agtgttagaa aggaccaacc    5760
aaagcagctt ccattcctta gctatgagag gttggcaagt tgtttttatc ttctttacct    5820
tggtggtatt atctgcaatt tggggataca aaattttatt tcacagggct cttgtataag    5880
tcaagtaaga atgaatataa aacattttgc agattttaaa gtgctaccct acacaaatgt    5940
acctaatgct aattaatagt aaatttgaac ctttatatta cagcagttga tgctgaaaat    6000
caagtggaac tggaggaaaa aacaagactt attaatcaag tgttggaact ccaacacaca    6060
cttgaaggtt ggcttgcatt ttgtagttta tttgaatgac agccaattaa ttgaacttgt    6120
aaaaatttat attgctaaat tttgtttgtt aggatgtata attttaaaa gaatgaactt    6180
caaagtacac acatatatat atctatcttc ctgctttggt agtttaaaga acagatacac    6240
ttcagtcaag tcaaatgttg ttattgtgct tccctctttg aagcctaaca taatgctggc    6300
tagtatgaga ccccctttta agtccccata atgtgttact aagtccgctt taataaagct    6360
tattttaaag taaaaacaat gtattagcct tggagattaa aaaggaattc atctgaattt    6420
tttcatttc taaatcttgc ataaaattaa tacactgaaa catcttttga gttttaatga    6480
aattaagagg ttgtgttttt ggtgccacag tgagcagatc atgtcactca gaacctccca    6540
ctgatttaca ttttacagag ttaataaaag tcatctgtga cttccctatt agctttcttt    6600
ttcttttct tttttttttt ttttttttt gagatggagt tcactcttgt tgcccaggtt    6660
ggagtgcaat ggcgcaacct cggctccctg caacctctgc ctcccaggtt caagcgattc    6720
tcctgtctca gcctcccgag tagctgggat tacaggcacc tgctaccatg cctagctaat    6780
tttttgtat ttttagtaga gataggggttt cactatgttg gccaggctgg tctcaaactc    6840
ctgacctcat gatccacccg cctcggcctc ccaaagtgct gggattacag gtgcgagcca    6900
ccgtgcccag ccggaattaa cctcttatgt gatcatcagg aactgcatgt gttcaatgtc    6960
ttgataatgt tacaatacaa gatgataagt tgcttggaaa ctgactgcct gtattcagta    7020
tatgaattca gttgtgttaa cctgatatat atcttaaaca tttctagtaa agatgttata    7080
gttttatgtt gataagacat gaaccaaaat tcacatttta aaaacaaagt cttttaaaa    7140
aattactcaa cattaatgct atttatgaag aatagcattt agtctaatgt gaaatatctt    7200
tttaggaatt tgtctactaa tttgtactca gtttgtttac cttgctgtct ctaaaatccg    7260
aattcttaaa atttaaggat tgtattattt cttttaagaa tgaatcctaa gaattttgta    7320
atatggaatc attgtcattg ttttattgat aatgggcatt tttatttttt atatagatct    7380
ctctgcaaga gtagatgcag ttaaggaaga aaatctgaag ctaaaatcag aaaaccaagt    7440
tcttggacaa tatatagaaa atctcatgtc agcttctagt gtttttcaaa caactgacac    7500
aaaaagcaaa agaaagtaag ggattgacac ccttctgttt tatggaattg ctgctgatca    7560
ttttttcttt aaaacttgga tagattccaa aagttacagt acctttgtgg cttcattgaa    7620
tatttatgaa gataatgtca gatgtagaca aaaataacac aataacagga gacttccata    7680
agtttgtgta ttatgttagt ctatgaaaac gtgcaaatgt attgtagaga ctttatgatt    7740
agaattgcat atatttatga aacttaaaga tgaatgtttt attgaatttg taggtttagc    7800
actgtctttt attataggat tagtaagata tacaagaaaa taaccaccgt gttgtgaaaa    7860
agtgaccaaa atcatgtact aaatgcacag ctttatgtac cctgtccacc atcttgtgcc    7920
tcttctccat ttgcctcttc cttcctattt cccttccgct aaggaaaaaa attggtgtca    7980
catttgtaaa agtaattta atagttaatc atctctgaga gtaacctgta ttttaattgt    8040
tgaaacttaa ccaaaataag atactgtctc agctagggct tgtcatttgt gtatttagtg    8100
ttaagatagg aatgctagtg tctctttaat taattggaaa tagatggagg ctaaaaatga    8160
aggttttct ttgaaactga attaacttgg gaatatttgt tgttaaaaac ttcttttttgc    8220
ccaaaataac tcattttgta ttatctgaaa atatataatt tctggtcatg tgtatgttaa    8280
aatagaaaat tttgaggaaa aatggaaata gggtggaaaa gtactcggta aacagtagta    8340
accaaatatt ttcactccag atttgtgttt tctctggcac agagtagatc ttttgggaaa    8400
tatatatgaa agtggattaa gtttgactac ccttatgtta gccacatctg gatgagaaca    8460
gttacaaaga gtttggtctc taagttgatt tgtacccagt gggtcaactt ctgcaaaatt    8520
ccgtaatggt gtattagtat tagaatagtg aataaaatgg gaaagttata catgtatact    8580
tattatcttg ctcagtattt tatctcactt gttctagaat tttctgtaaa ccctgctact    8640
gggtttgaag agttttagtc atcctttaac aattttttaaa aatttagctt ctagattcca    8700
tttggtaagg aaatcaatat tggaagtatt gctaaaatct tataatatga aaagagatct    8760
actaatgtag cttaaggtta ttagatttgg gctttaatc atggaataat cttatgtatt    8820
ggtgtaagag ttgatgaatg actttagctg tgtgaatata taatagtcaa actgcaaaca    8880
ttttgcatcc cttttgtgac ctaatttaca gacatttaaa ttgtgttgca gttctgcttt    8940
gccgtttaat aaaaagctat ttcagaggtt g                                  8971
```

<210> 5821

2742

<211> 1312
<212> DNA
<213> Homo sapiens

<400> 5821
```
aggtccaagc cttgtcatcg gccagtaagt ttgaagcaga gttgaaagct gagcaagatg    60
agcggaagcg ggaggaggag gagaggcggc tccgccaggc agccttccag aaactcaagg   120
ccaacttcaa tacatagtcc tgctgacctt gccctctgcc cacagctgtg cctcacagat   180
gccccgagaa gagatgacta ggcatcttca tcactgctgt cggtcccctc cctgagccag   240
catctccatc caccaccccg tgccagctcc cgtgccagcc ttcattcctc ccagtgtcca   300
agcccctcca ggagggtcct ggggtgggcc agatgcctgc ccacctctgt ctcctgcctc   360
tgctcctctg cccttcttat agccagaact tgtatcttct cagcaacctt cactttgtcc   420
ttgtcccttt accattcccc atcaaagagt agtctgctat atcaatttgt gtagatatgt   480
ctgtcttttt gggtcctcag agaaaatgcc cattttctcg gagaattctc tgcactcctc   540
tctgcttcac attcaacttc cctgttctca tctttggtag gattctgcca gttgcttgtg   600
catcttctgc tcctgggtaa gggtgggtct taatggtggc tgggtggacc actgcccgtc   660
cactcttcaa caggaggaac agcatgccac catagtaaca cacattagag aaaggacaga   720
ggtctgctcc ttcctgccac ctttctcctg gccccttagc attcccccag tccctccctc   780
ttcaccttgc tccgtctatg tcttcccagc tcagcctttt ccccactctt aaatactgta   840
ctacttcact gtaagaacga aagaatagtt aggataccaa tgagtaaaag ggttcctgtt   900
cactctgact ctgtgcaaat tgtattacag tagaccgctg acgttcccaa gtgacagatc   960
cagggccttt caaacatccc caaagtcatg gccatactca ccattagcca gtttctaaca  1020
tctgtttcag ggtatccagc tgtagatgtt cttatccccc atacttgtga gttcttgggg  1080
ttgctcacaa atactagggg tttttgttgt attttaaca aatatatcct aatgtcatat   1140
ttattctctt ttgtaactgc tgtctttaca ataaagaaat catctgcctt tctatcttac  1200
agctatttct ttttacattg tacaaataac gtggccatca catcaatgtg cctggaattt  1260
tcttgaatta aaggagagag tagagtattt tctataggag ccaagtccca tc          1312
```

<210> 5822
<211> 1312
<212> DNA
<213> Homo sapiens

<400> 5822
```
aggtccaagc cttgtcatcg gccagtaagt ttgaagcaga gttgaaagct gagcaagatg    60
agcggaagcg ggaggaggag gagaggcggc tccgccaggc agccttccag aaactcaagg   120
ccaacttcaa tacatagtcc tgctgacctt gccctctgcc cacagctgtg cctcacagat   180
gccccgagaa gagatgacta ggcatcttca tcactgctgt cggtcccctc cctgagccag   240
catctccatc caccaccccg tgccagctcc cgtgccagcc ttcattcctc ccagtgtcca   300
agcccctcca ggagggtcct ggggtgggcc agatgcctgc ccacctctgt ctcctgcctc   360
tgctcctctg cccttcttat agccagaact tgtatcttct cagcaacctt cactttgtcc   420
ttgtcccttt accattcccc atcaaagagt agtctgctat atcaatttgt gtagatatgt ( 480
ctgtcttttt gggtcctcag agaaaatgcc cattttctcg gagaattctc tgcactcctc   540
tctgcttcac attcaacttc cctgttctca tctttggtag gattctgcca gttgcttttg   600
catcttctgt tcctgggtaa tggtgggtct taatggaggc tgggtggacc actgcccgtc   660
cactcttcaa caggaggaac agcatgccac catagtaaca cacattagag aaaggacaga   720
ggtctgctcc ttcctgccac ctttctcctg gccccttagc attcccccag tccctccctc   780
ttcaccttgc tccgtctatg tcttcccagc tcagcctttt ccccactctt aaatactgta   840
ctacttcact gtaagaacga aagaatagtt aggataccaa tgagtaaaag ggttcctgtt   900
cactctgact ctgtgcaaat tgtattacag tagaccgctg acgttcccaa gtgacagatc   960
cagggccttt caaacatccc caaagtcatg gccatactca ccattagcca gtttctaaca  1020
tctgtttcag ggtatccagc tgtagatgtt cttatccccc atacttgtga gttcttgggg  1080
ttgctcacaa atactagggg tttttgttgt attttaaca aatatatcct aatgtcatat   1140
ttattctctt ttgtaactgc tgtctttaca ataaagaaat catctgcctt tctatcttac  1200
agctatttct ttttacattg tacaaataac gtggccatca catcaatgtg cctggaattt  1260
tcttgaatta aaggagagag tagagtattt tctataggag ccaagtccca tc          1312
```

<210> 5823
<211> 20337

<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (18464)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (18467)
<223> n equals a,t,g, or c

<400> 5823

```
ctgtttcaca gcaatgctga cccggacaga gttgatggag ccctcaatca gaacctttc     60
cttctcattc ctgctgatgg tcacaggttg taacaggagc tctttgctac tcctgaaaac    120
ataatgtgac agagtacttg tactacagag ggatagaata gtcagagtga ccccacgcag    180
gtcctggaat cactatgaga ccatagagtc caaggaatag aagactcaca agcaggagtg    240
ctccaagatg ggggccagtg agtgtgttct tcagcagaaa gagcacaggc tctgaagtca    300
gggcgaaaag gttttgaaat ccagcctcct ctgttacttt ccttgggcaa gttaccctgt    360
tgggaatctc aattttctca tctgtaaaat gactctgatt cctaattcac tggcgaggac    420
tgagagagat caaaaagggt caaatgtcta atagcgtgcc tggcacatag taggagcttt    480
acaaaagata gctattttag taactacaag ttgaacatcc ccaatctgca aatctgaaat    540
ccaaaatctg aaactggctg ggcacagtgg ctcatgcctg taatcccagc actttgagag    600
gctgaggctg gtggatcacc tgaggtcagg agttcgagac cagcctggcc aacatggtga    660
tatcccattt gtactaaaaa tataaaaatt agctgggcat ggtggcgcac tcctataatc    720
ccagatactc aggaggctga agcacgagaa ttgctcgaac tcaggaggtg gcagttgcag    780
tgagccaaga tcataccact gtactccagc ctgggtgaca gaatcaaact ccatctcaaa    840
aaaaaaaaaa aacctgaaag tttccgagtg ctgacaagat gctcaaagga gatcctcatt    900
ggagcatttt ggatttggaa ttagggatgc tcaactggtt aagtatctgc aaatattcca    960
caatctgaaa tacttttggt cccaagcatt ttggataaga gatactcaac ctgtacaggc   1020
aaaccaatat accatttagg aatacagaga gaacacctgt cttagaggta aggaaaggct   1080
aaaattgaac acagtttggc ttcctttaat tatcaatcca gaaatgattc atttgcctct   1140
gagaccccta tgagttcagg ttacaaagta atgcctctga atacctagag atctctaata   1200
gtaattaatt gtggtgtggt gtctctaaac tgctaaccat tttcaaaggc ccactggaaa   1260
tcgtgtacgt tacacagtat aacagggcat atcctaacat ctttatcagt tattttttaaa   1320
attaaaaatt aaatcgtatc atttaatgtt gtaacccaga ttatctcagt tatgtatgta   1380
ccagaatgaa ttttatttta ttttatttta ttttatttta tttttgagac gaagtcttgc   1440
tctgctgcca ggctggagtg cggtggcacg atcttggctc actgcaacct ccgcctccca   1500
ggttcaagca attctcctgc ctcagcctcc cgagtagctg ggactacagg tgcataccac   1560
catgcccagc ttatttttgt attttttagta gagacaaggt ttcaccatgt tggccaggat   1620
gctctcgatc tcttgacctc ataatctgtc tgcctcggcc tcccaaagtg ctgggattac   1680
aggcgtgagc cactgtgccc ggcctattta cttatttttt gagacagggt ctcacccagg   1740
ctggagtgca ctgtcgcaat gttggctcat tgcaacctct gcttcccagg ctcaagagat   1800
cctcctgcct cagcctccag agaagtggga ctacaggcat gtgccaccat gcctgactat   1860
ttttgcatat tttttttggta gagatggagt cttgccatgt tgcccaggct ggtcttgaac   1920
tcctgtactc aagcgatcta cccacttcag cctcctaaag tgctcggatt acaggggtga   1980
accactgcac caggcctcca gattaaattt taaaggggaa aaagatattt atgaaatgga   2040
aactagataa gagaaaatca ttcaaaatat gaagtatttg gattagggg tcagagtgtc   2100
taggctggta ggtaaaaaaa aaatccctga tcattacatt agaaaagtat ggagatggga   2160
aaaaaaaaaa aaaaaaagaa aagtatgag atggaatctc agataacaat tatctgacca   2220
ttccttaaac taccagtgtt ttcaacaatg ccacaggaga gacttcatca acagccctgc   2280
tctgagaagt cataccttgt gttaaccaat cttgtctttt ccctgggtt ctgtcctgcc   2340
aacccactga ccctatttc ttaactccaa attgggaatc accattcagc tggcagcaag   2400
acaaatgtc aactgcagct ttcctgacta ctgcaggaca taagttcatg gcaccttcta   2460
gacagcagcc atctctgtgt gctgcacccc tcatccccac cttgacttgt ccttccctac   2520
ctgacttcca cttccggctt gttgtgtcgt tccacaacct gggaggagaa gttctccagg   2580
cagagggcag cctgcaatgt ggcccgcacg gcactcaggt aggggcggag agtggcagtc   2640
tataggaaat aacacagagg aaagggaaga tcaaaatctg tcacgccaaa cccaccgatc   2700
ccctattcca gctcccatga agccaggtag cactgagggt gcaaggctct taagacacta   2760
ctgtgaacag aacagactag gccttcgaga cgccttccaa ggtgtagagt ggtagttttc   2820
```

```
aacaggagac aattttgcct gccagggtac atttggtaat gtcgagacat ttcctttctt   2880
tctttttttaa cctggggtca gaccagagga atgctgagac attttcaatt gtcatgactt   2940
ggcaagaagg ggaactgcag gcattcagtg gacagatatc cactaaacat actacaatgc   3000
actacaaaga attatcgaga ctcaaatatc aatagtgcta aggttgagaa agtgatctag   3060
agacacacca gtgaatgcat gattgtcgtc aatctattag gccaacaaat gtataggtgt   3120
actgtttgcc acgcactgag ctaactggga attcaaagat gattaacact gtctctaccc   3180
tcaaacagct caactggata gcaaatatac agaaaataac tatgatataa agatgacatg   3240
tgaaatattt agatttacaa gtaatctata tttgcagaag aaactggttt tgaaggtgaa   3300
atgggattag gaggagaaaa aggagaataa ggacattctt tttttttttt tttttttgag   3360
acagagtctc gctctgttgc ccaggctgga gcgcggtggc acgatctcgg ctcactgcaa   3420
gctccacctc ccgggttcat gcccttctcc tgcctcagcc tcccaagtag ctgggactac   3480
aggcgcccac caccacaccc ggctaacttt ttgtattttt agtagagaca gggtttcacg   3540
gtgttagcca ggatggtctc aatctcctga ccttgtaatc tgcccgcctt ggcctcccaa   3600
agtgctgggt ttacaggcgt gagccaccac accctgccag aataaggaca ttcttaggag   3660
agggattagc ttctagctgc actggtcagt ccttgtatca gccaaattct ttcccacctc   3720
agagctttac acatgcttga ccatctatct gtaggctttt ctcctctttc tttgcctaag   3780
tcatcctcca gatctcagct taattaagga aggcctcttg agagagacct tgacatcccc   3840
ctataaagta tttattacaa ttgacaaaaa aatgtctttc atgtcttctt aatatttatt   3900
tttgagaggg agtctcgctt ctgtcaccct cgctggagtg cagtggcacg atctctgctc   3960
acggcaatcg ccgcctcctg ggttaaagcg attctcctgc ttcagcctcc cgagtagctg   4020
ggattacagg cgcacatcac catgcctggc taattttgt attttagta gagacggagt   4080
ttcaccgtgt tggtcaggct tgtcttgaaa tcctgacctc aggcaatccg cccacctcgg   4140
ctctctcaaa gtgttgggat tacaggcgtg agccaacgtg cctggccttt tttatttttt   4200
tttgagacag agtcttactc tgttgtccag gctggagcgc agtggtgcaa tcttggctca   4260
ctgcaacctc cacctcccgg gttcaagtga ttcacctgcc tcagccatgc gaatagctga   4320
gatgacaagt gtgcaccacc gtgcctggtt aatttttgta ttttagtag agatgggggtt   4380
tcgccatgtt ggccaggctg gtctcaaact cctgacctca agtgacccgc ccatctcggc   4440
ctcctaaagt gctgggatta cagacatgaa ccactgcacc tgccctcctt catgcctttg   4500
taagtgattt ctcctttact aggctgtaaa cctcatggtc aacagaccat atctattta   4560
ttcacagcta tatagcctcc aacctagctc agtacctaac atatacagtg tctcactcat   4620
ttcctgtaga ataaataagc gaaagaaata attaagatta gagtaacaca aaaggacagc   4680
aagagttcca gagtagtaat gagtacaatg tttctgtata tgagaagcat tttagattca   4740
ctaaatgagg ctgcagcggt aggctgaggt aagatcatgg ggaatcttga atgccaggct   4800
accaagttta gctttctct taagggggta aggaactact ggggctttct gaggaggaag   4860
ttcatgactg cagctgcatg atggctctgt ggagaatgat ttggagaggg aagtgagaca   4920
tacagcagac tgtatcacaa gcaaagagta tcacaagcgt tggactgaca ttagatggag   4980
tggataatgg aactgaaaaa aaacttccca ggggctcacg cctgtaatcc cggcactttg   5040
ggaggccgag gtgggtggac cacctcaggt caggagttca agaccagcct ggccaacatg   5100
gcaaaacccc gtctctacta aaaatacaaa aaattagctg tggcgggtgc ctgtaatctc   5160
agctacttga gaggctgagg cagtagaatt gcttgaaccc aggagactga ggttgcagtg   5220
agccgagatc acgccactgt gctccagcct gggtgacaga gcgagactgt gtcttaaaaa   5280
aaaagaaaaa gaaaaaccac ttccaacgaa ctgtggtcca gccattcaat taactactac   5340
ttggtaataa aaaaagagta actattgata cacacaacat ggttgactct caaatgtatt   5400
atggtaagaa gccacactta aaagcctgca tactaaagaa ttccatttac atgacaatct   5460
gaaaaaggca aaactacagg ggggaaaaat cagtagttgt ctggggtggg aaggagagga   5520
ctgattacaa aagggcttga gggaactttt tggggtgacg gaaatgttct gtattttggt   5580
tgcagtagtg gttacacaac ttgttttaaga cacgggatct tgctatattg   5640
tccaggctga agtgcagtgg ctattcacag gagtgatcac agtgtactac ggcctcgaac   5700
ttctgggctc aagtgatcct cctgcctcag tgtcctgagc ggatggtact acaggcgcat   5760
gccaccatac ccagcaagtt tttgcaacgc ttttttttt gagacggagt cttactctgt   5820
tgcccagtct ggtgtgcagt ggcacgatct cgactcactg caagctctgc tttctgggtt   5880
cacgccattc tcctgcctca gcctcctgag tagctgggac tacaggtgcc caccaccacg   5940
cccggctaat tttttgcatt tttagtagag aagaggtttc accgtgttag ccaggatggt   6000
ctcgatctcc tgacgtcgtg atccgcccgc ctctgcctcc caaagtgctg ggattacaag   6060
cgtgagccac cacgcctggc ctttgtcaac agttatagaa agtaaaccta aaaagggtga   6120
ctggctccgt gacgcctgtc ctttcatgaa taaaacagat gtagtctcat gtaatacctc   6180
aataaacttg aacttttaaa aatcaagagg catgtgcccc actagaaaaa aaaaatacag   6240
attttagca gagacatgag gtcacaaaag tttgccagga tagggaaccc aggaggaaga   6300
acaaatttag aatagaatat gagttttgaa ctagaggtct aatttcaagg tctcttcaag   6360
atatccaggc aaaccttgaa agagagctga gaagccagat taggagtcat cagaatgaag   6420
aaagttatcg aagccaggag actagatcgg tatcaccagg gaaggtgtga cgaagaggga   6480
```

2745

```
gatggtcatc caaagtcaca actcccagga atgcccacac gtatgaaaaa ggcccacatg  6540
tatgaaaaag gcccacatgt atgaaaaagg gaggacttcc aggaagggag ggatgagcag  6600
tatcacagct aacatacact aaggctgaca cagttcagtt ctgaccagga agggcctgaa  6660
tggaagcaac acgagagatc ctccaatggg gtggaagcag ggctggaggt accaagaatg  6720
ggataaggaa gtgtggccgc ctgccttaag caactgtagg gtcaggaagg cagaagagga  6780
caaagggcgt atgtcgtgaa gttccactgt ggataggcag gtggacttgc ttcatgcctc  6840
agaggctaag aggccgacta cgtaccctcg aaatgctcca aagagcctag gagaccccac  6900
ttccgggttc ctacagggct caggaaaagc ccctacctgc ttcgaaggct gaccgtgaag  6960
ccacaaggcc cacttcatac cagggagtac ccccactcgc cccttcctca cctcgggccc  7020
ccgccccgtc tctttttccc accctcatcg tgtccccaca acccccggac atccctcggc  7080
cccgcgcccc tgcggcaaag ccacatctcc caccgaccca ctgccctgag gccgaacagc  7140
cggggggtccc tggccggggg cccggctctc tcaccatcgc gggcgctggc tgggccggaa  7200
agcggaagta cggaagtggc cagccccgcg atgcctgccc tttcgcgaga agcgcagcta  7260
cggtctccgc ccggacttcc ggacggtacc atctatgctc cgagcggggt agagagccct  7320
tacgaacgct tgggccttcc ggaagttttc cacctagggc tgtctcggta ttttaaatt  7380
cttgcactcg agtcactatt taagctcctc caggaatggg tgcagcttcc ctttgtgcct  7440
tcggccttct tgtcaccttt gccacagcct cccccaggta tgcaatggta cagcccagct  7500
tcagattggg caccaaatta ggacaagccg aagcggacga gcccttcgtt tcttccggtt  7560
ctgtaccccc atcctttctc tcgcccctcc tacccgcagc tcctggcgct cggcggggct  7620
aactgcagcg cggagatctc ggccgccaag ctccgcctcc cgccccgggc tgtgccccgg  7680
ggctcgcctg aggccgacca cccgcacccc acctctagcg gctttgctcg aggcccacct  7740
tcttcccacc cccggcaaac tccagtaggc tcgccctcgc tgactccccg cccccgcgtc  7800
aactgcaagg ggcccgccca tagccagttc cggggcggtt gctcacatcg accggaactc  7860
cccgcccect cccgcggccc ctggggccgt aggaggccgc agcgaggagg tagaggggc  7920
ggggggtcgca ctaggggtgtc cctagagaac gaggactctg aaggcgggac atttgggcga  7980
cccccgggcg gggccagcca ttaaacagtc ccacttctgt gccagacact gaactgggct  8040
cttgacgggc atcatctctt aatcctcaga acatcccagg gaggtaggta ctattgttat  8100
ccccattttt cagattcaga ctttttaatgg ggaaacagac cgagacttct tttgtcccca  8160
ttttacagat ggaaaaactg agactgaaaa aggtcaaata acatgttcag gggcatataa  8220
gtagagaatg gtaaagcctg ggcttgaacc caggtctgtc tggcttacca gcccacgttc  8280
taaaccactg ttagtgacta gagaagggag aaaggtggaa tagggtaaga aaagaggcca  8340
agagtcccag agaacatggt aagaatgggg tgcttggaac tcaaagtctt agcagaaccc  8400
aagagaaata gaagggaagg aaagagcatc agaaaggcga ggcaaggcat agcagtatag  8460
catggtgatc agggtgcaga ctcaagacta gcggggttca aattgcatct tggaagcata  8520
ggcacatacc caccccttaca gagtctcagt ttctttctct gtaaaaacga gatcacaatg  8580
gtccttgttc atggtgctga gtgagaaatt cagtgagata aactgataaa gtgctctgca  8640
cctagcttgg tacccagtta agtgccctgt gagtaggaac tgtgccatca attttgtcag  8700
taagggactg aagctgggct tccttgaggc tgtccctgga ggtaagaagc ccttgggctt  8760
ttctcagacc actttgtctc ccatcaatgg ccctgtcctc tccagctcca caggatcccc  8820
atatcctggg ccatgagtga gttgaaagac tgccccttgc agttccacga cttcaagtct  8880
gtggatcacc tgaaggtctg tccccgctac acggcagtgc tggcacgctc tgaggatgat  8940
ggcatcggca tcgaggagct ggacaccctg cagctggagc tggagaccct gctgtcttct  9000
gccagccggc gcctgcgtgt gcttgaggcc gaaacccagg tgataacccc agagaggggc  9060
cagcaccaga gatggactgc aacaagttat gggatgggtc attgagttag ccccatatgc  9120
tgagacttgg ggtacagggg tttgtgggga gagggagaga gacgcaaact gggtttgcat  9180
gacacaaaaa atacacaaga atatgcatga tcctcttaaa ttgcaagatt tctaattcag  9240
taagctttta ttggcacccc actcatcccc cattgtgttc tgggtcctat gctagtcatt  9300
agagaaaggt aattaggaca gttatggctg tcagggagct tggcaactag gaaagtgaga  9360
aagtcaagta cataccaggt gatgtgatgt tgtggttagc agtcctaggg aactggaatg  9420
gggaaacctg gatttgaatc ctggcataag cgcttgctag cattgctgtt tcctagctat  9480
gtgactttga gaaagttgcc tcatatctct gagtgtcagt ttccctatct gcaaagtggg  9540
gtgaataata ggacctacct tagtgctttt gtgaggatta aaagagaatt ttttgcaaaa  9600
actcagccca atgccagaca ctaagtaagt acttcagatg ttatttattt gctactctga  9660
tgactttatt cactgcataa agatgccttg agccttgtgt gccaggcgct atgctgtatt  9720
ctgcaaaata gagatggtta aggtgggctt tctggtcctc agtagcttat ggtctagttg  9780
aagagacaag gtgtgatggt cattccagtg tgaccaaaca acacgattgg gtgcacgttg  9840
gagctgtgaa gtgccagaga cttgtggagg aaggaggtgc caactggacc taaaaggatg  9900
aatggaatta acttgtccct gggaatccat ggacctcct tgaggaaggc tatgactcaa  9960
gttgtatttt agcatctaag aacctgggta actgattgag agaaggcatc tcagtagtgg  10020
tgacatcgaa gtgaaggttt gctgagagga ctcttctgtt aaacagtatg tgactggcat  10080
gggtgataca gaagtgaatc agtatagatg aacaagtgaa tgagattatg agaagtatat  10140
```

2746

```
gaataaagtt ctaggaggcc aggcacagaa aatgagctga attttgaagg atgagtaaga 10200
gtttactagg taaaaagagg atggggaaag acccaggagc ctctgtagat tctagatcct 10260
aatttattca ctagaggaaa gagatattct gtgttttccc ttctccccct cagtgacact 10320
ttctgtaaat ttcagatcct caccgactgg caggataaga aaggtgacag acgattcctg 10380
aagctgggtc gagaccatga acttggagct cccccaaac atgggaagcc caagaagcag 10440
aaactggaag ggaaggcagg acatgggccg ggccctggcc caggacggcc caaatccaaa 10500
aaccttcagc ccaagatcca ggaatatgaa ttcactgatg accctatcga cgtgccacgg 10560
atccccaaaa atgatgcccc caacaggttc tgggctagag aacatagaag ggggcctcaa 10620
ggttctggtg gtggaggcac tggtggggca ggggcgccca ctcaggatct gcttctccct 10680
gcaggttctg ggcttcagtg gagccctact gtgctgacat caccagcgag gaggtccgca 10740
cacttgagga gttactgaag cccccagaag atgaggctga gcattacaag gtagaaactc 10800
tgggccttga tagacatgat gcggaacaag agagttcaga ggtgcctgag aagtaaagct 10860
accaaagcca tgcatcatct tccttcccca accctgccca gtctgctgtc tgctccatca 10920
gtgcctccag acacctaggc ccaaactcag ctttctccgt gcactgcctc ccctctaccc 10980
cagccaaatg tcaacacgcc ctcaagcatc tacttaagtg aagtctgccc atgttccttt 11040
atccccatcc cctctgcttt ggtccaagcc ttcatcaact tctatccaaa cagcctctta 11100
actctcttcc tgtttcgagg cctctggagg aacctttctt ctttctttaa gatataaaac 11160
ttgggctggg agcagtggct tatgcctgca atcctagcac tttgggaggc cggggcgggc 11220
agattgcttg agctcaggaa tttgagacca gcctgggcaa catggtgaaa ccccatctct 11280
accaaaatac aaaaaattag ccaggcatgg cggtgtgcgc ctgtagtccc agctactcgg 11340
gaggctgagt caggaggatc tcttggaccc gggaggtgga agttgcagtg agccgagatc 11400
acgccactgc actccagcct gggcaacaga gcaagactcc gtctccaaaa aaaaaaaaaa 11460
gatataaaag tcacctcacg cctgtaatcc caacactttg ggaggctgtg gcaggcagat 11520
catctgaggt caggagttca agaccagcct gaccaacatg gtgaaacgcc gtctctacta 11580
aaaatacaaa aattagcctg gcacggtggc atgcacctgt aatcctggct actcgggagg 11640
ctgagccagg aaaatcacct gaactgggga ggcatcggtt gcaatgagcc aagatcgtgc 11700
cactgtattc cagcctgggt dacagaagga gattccatcc attaaaaaa aaaaagccgg 11760
gtgcggtggc tcaagcctgt aatcccagcc ctttgggagg ccgaggcggg cagatcacaa 11820
ggtcaggaga ttgagaccat cctggctaac acggtgaaac cccgtctcta ctaaaaatag 11880
aaaaaattag ccgggcgtgg tggcgggcgc ctgtagtccc agctgctcgg gaggctaagg 11940
caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agctgagatt gtgccactgc 12000
actccagcct gggtgacaga gcaagactct gtctcaaaaa aaaagaaga tataaaacta 12060
tgttttaatg atgaaaataa ataaaacatg ctccattaaa gaaaatttag aaaatacaga 12120
aaaatgttga gggagaatcc tcccataggt gagctgtcat gatcagatgt gctcatgaca 12180
tggcgctgca tccaggcctt tcttcctccc gttatctaca ggatcaagtc cacgcatccc 12240
agtccttgct ggcacagctc cagtgcccct ctccattttc ctcggccata tccctcttca 12300
ttgccgtgtt gaccagtccc accaagtatc tcgccctcat tccaggacac cacagcctcc 12360
tcgctggtct ctgggcctct ggcaagctct tctctccctc ttgtctcctt gacagacttg 12420
actcacccctt caaggccctg atctcatgtt acctccacca aagcactctt tcagattccc 12480
cagcagaaag ttagtcagtc tctcctttgt gctgccacaa cactttgatc tctctctttc 12540
acttcactta tctgatttct taaaaattta tctgaaaaag agttcataca gacagcagta 12600
aattcaagca atacaaaagg taattccctg tcacccgtga cctgaaggct cctaattctc 12660
tcgagaggca attgctgtga cctgagacaa tctgtgtacg tattctgcac cttctatctt 12720
gggaattatt tcagattggc ttctgtgtgt gtgtcttagt tcttttttgga cctgtctccc 12780
ttactagagt gtgaagtaca ggttttatct tcgttgtact ttcttaccta cacctgacac 12840
tgggcttggc cttggactag ggacttgaga gagatataag ataggtaagt gaatgaatga 12900
atgaagcatg gctggccagt gcttacccac tcagggttgg gtgccatctt ttccacagat 12960
cccacccctg gggaagcact actcccagcg ctgggcccag gaggacctgc tggaggagca 13020
gaaggatggg gcccgggcag cggctgtggc tgacaagaag aaaggcctca tggggccact 13080
gaccgaactg gacactaaag gtaggcctct cacctccctg ccaaccccag gtcaggactt 13140
gaattccaga acttcagccc acctcccctc ctttcctgtg cccgcttaga tgtggatgcc 13200
ctgctgaaga gtctgaggc ccagcatgaa cagccggaag atggatgccc ctttggtgcc 13260
ctgacgcagc gcctcctgca ggccctggtg gaggtgagca gcctaaccca aaagaggaac 13320
catatttact ttgtgtttta atgtgttatg cttattttt atcggaattt atcatacatt 13380
tattaggttg gtgcaaaaat aggttggtgc aaaagtaaaa acctggacta atatatagca 13440
aaagattggg aataatatat aacttgtgca cctaatagaa aagtgcacag atcataaatg 13500
tacagttttc acaaatgagc ttgtattacc agcctggaga ttacaaaatg aaacattact 13560
atatcctaga agcccctctc atgcccctgt ttttctccaa cttttcccaa aggtagcctt 13620
actccacaat tactttttgct aagcatctgt tggaggggct ttatacacat cctcccactg 13680
gaggccagga cagtggttaa cgctgtgtta cagataagaa gattgaggct cagaaaaggg 13740
aactgttcac ttgaggtctc acacaccagg attcaaaccc tagcttcagg ggccctgtct 13800
```

```
ttatacctgc tggttgacct tagacacacc ctcacactct ttcacctcat tgagactcag   13860
ttttctattc tggctcaaac acaagagttt atctcatgga acagtctggg tacatgttgc   13920
aggttatcta aggtagggga aggggcaggt ctctatctca tatcatcaga caggggaccc   13980
cagctgacgg tggccttgca gtctgcccaa ggtcactctg ggcgtaattg tcactccagt   14040
cccacagaat aagagcaagg aggccgggcg cggtggctca cgcctgtaat cccagcactt   14100
tgggaggctg aggcgggcgg atcacaaggt caggagatcg agaccatcct ggctaacatg   14160
atgaaacccc gtctctacta aaaatacaaa aaaattagcc gggcatagtg gcagggcgcc   14220
tgtagtccca actacttggg aggctgaggc aggagaatgg catgaaccca ggaggcggag   14280
cttgcagtaa gccgaaattg tgccactgca ctccacagcc tgggtgacaa agtgagactc   14340
catctcaaaa aaaaaaaaca aaacaaaaca aggaggagtg tgtgaaggaa acttttttggc   14400
ccatgcctag ctatggctct tatctcttct gatcactttc ccctggagag aacttgtcac   14460
atgaccatac ccgcctgcaa gagagcctgg gaagtacaac tggacaggca ttgcctagct   14520
gccgtggagg aaagaagagt atggcattcg gacagctagc atctccgcca cagcaggcct   14580
agcacactgc ctggtgcgtt gcagacgctt cacaaacctt agctgttcat taccatcatt   14640
gagtgttaat catttctctt ctgtgttcct ttttcttcac atcagtacga aaataaaagg   14700
gatttctaga atgatcaaag caatttggga ttggtatggg aaggcttccc acggtaggtg   14760
ggatgggaaa gataaaagga tatttctggt gtttgaagac tgtcagtgta ggtcagaaag   14820
gagcaggaaa gtggaacagc tattttttcct tccactcatt tttgtggtct tctaggaaaa   14880
tattatttcc cctatggagg attctcctat tcctgacatg tctgggaaag aatcaggggc   14940
tgacggggca agcacctccc ctcgcaatca gaacaagccc ttcaggtgag tggtgtccta   15000
tccacaaccc acagtctggc ccccgcttct gttggcttct ctccatctca acctggggaa   15060
gtcctcatca gtaagaggct gggggcagtt aggtgaagcc taatagcagt ctcaagtgtg   15120
agtgatgacc cagcgtgtct gcatgcacag actgagtgca gggttgttca gcacagaact   15180
gttcatacca taaataaccc aaatgtcctg ctgaagggga atggttggct aaattggcat   15240
aactccatat gatgaaataa cttggggcta ttaatcatat agctgcaagt atagagaaat   15300
atagttaaat gacatgaaaa gatgtaaatt atagagtgac aagtggagaa aatattagtt   15360
gtagcccagt atggatggta taatactatt tttacttaaa atatatttct tttttctttt   15420
ttcttttttt tttttgaga tggagtctcg ctcttgtcgt ttaggttgga gcgcaatggc   15480
gcaatcttgg ctcactgcaa cctccgcctc ccaggttcaa gcgattctcc tgcctcagcc   15540
accaagtagc tgtgattaca ggcgcctgcc accatgtatg gctcattttt gtatttttag   15600
tagagacggg gtttcaccat cttggccggg ctggtcttga actcctgacc tcaggtgatc   15660
ctcccacctc ggccttccaa agtgctggga ttacaggtgt gagccaccat gcctggctta   15720
cttacaatat atttaaatat gtgcacataa gggaaaaaac ctggactaat atgtagcaaa   15780
agattaggaa taatatataa caaaatctgg aatatatata ataatatata acaaaataat   15840
agtaattctc tctgggttgt tggcattatg ggttttttcca tatttttttga atagtagata   15900
catacgttgc ttgttttaaa aaccagacca gatgtgtctg tccctccctt tgtatctgga   15960
tagatacaga gggggtgccc aaagggaaag gcaggttttc actgaccttg ggaagccctg   16020
ggaacctcca aggtgggccc ttctccaagc tggctcttga gtctgacggg cctgcctccc   16080
gctgcagtgt gccgcatact aagtccctgg agagccgcat caaggaggag ctaattgccc   16140
agggcctttt ggagtctgag gaccgccccg cagaggactc cgaggatgag gtccttgctg   16200
agcttcgcaa acggcaggct gagctgaagg cacttagtgc ccacaaccgc accaagaagc   16260
acgacctgct gaggtgagcg ttagcaggat gcacagtccc gggggtggcc ttggaggctg   16320
tggccacggc tagtcacctt tcaggggttt tacaacaggc tttccaatcc tggctggcct   16380
ctaaatcacc tggagagcct cgaaaaaaac agcagtggcc agtccaccgg gtatgtccca   16440
aacaaattct gattccacag agtggggctc aggcatctgt gactgaccga ttgatttgat   16500
ttgttttgt tttgttttttt tttgagaggg agtctcgcac tgtcacccag gctggagtgc   16560
agtggcatga tctcggctca ctgcaagctc cgcctcccag gttcatgcca ttctcctgcc   16620
tcagcctcct gagtagctga tactacaggc acccaccacc acgcccagct aattttttttg   16680
tattttttagt agagacgggg tttcaccgtg ttagccagga tggtctcgat ctcctgacct   16740
cgtgatccac ccgcctcggc ctcccaaagt gccgggatta caggcgtgag ccactgcgcc   16800
tggcctagtt tggttttttta attatggtaa aggcataata taaaatgtat ctccatggga   16860
ggctgaggca ggagaatcag ttgaacctgg gaggcggagg ttgcagtgag ctgagactgc   16920
accattgcat tccagcctgg gcaacaagag tgaaactgca tctcaaaaaa aaaaagaaaa   16980
aaaatttacg cttcttaacc attttaagt gtacagttta gtagtgttac ccatattcac   17040
attgttgtgt gatttatttt ttgtcttttc atgcttcttt tcttttttatc cccaaagttt   17100
tgttattaaa aatttgatac acacagaaaa tctgaaagaa tcatacaata aacatcagta   17160
tattctccac ctagactaat taactgttaa cattttgttg gagatctgtg attttttattt   17220
gctcatcaca agaaattgac cagtgttttta ggacatgttc ttttgggaat ccatcagagt   17280
gcctgccatt catttgatgt caactcccat ccatcttgtt ctgcattgat cacgagggta   17340
taggtgacat cttgaggaag actgtggaat agctaccctt taggtaaaga gatagggaag   17400
caacccgaac aagtctcttt gcttctcaca gacaagtgct gtgtcttaac ttcatagagc   17460
```

2748

```
cctgacagga cagggcacat tcattcattt ggcctttttt tttttttttt gagacggtgt    17520
ctcactctgt tgcccaggct ggagtgcagt gccatgatct cggctcactg caacctccgc    17580
ctcccgggtt caggcagttc tcctgcctca gcctcctgag tagttgggat tacaggcatg    17640
cactaccatg ccaggctaat catttggcca ttcttactgt ctcttagata ttgtgctggg    17700
ggccagcaag agaggcagag caagggactt gcagattact agcagatgat cagtaaagat    17760
aagtgccatt aaaaggagag gtagttgctg acaagctgcc agggtattta aggataagag    17820
tgactaatgt atgctgaggg cctactgtgt gtcaggggct ttatgtacac tctctcaagt    17880
gtcttgacaa caacccagga gggaggagct attttcgttg tttaccagat gaggaaataa    17940
aggcccagtg aagcgaaatg ctctgctgaa ggtcacacag tcaataaaca gcaagctgag    18000
acttgaacct gtggttgaat caaagcctct ttctataata gtttgttttc tctgaaaggt    18060
gagaagaaga aaacacagat ggaagaggca ctgagggaag cagagggaga gagaggaaga    18120
gagagaaaag caggcatgtg cagttacaga agtagtgggc cctagctggg cctggtggct    18180
catgcctgta atcccagcac tttgggagac tgaggtggga ggcttgtttg agctcaggag    18240
ttcgaaacta gcctgggcaa tgtagtcaga ccccccttctc tactaaaaat ttttaaaaat    18300
cagctaggca tggtggcaca tgcctatagt cctactcagg aggctgatgt gggaggattg    18360
cttgatcctg ggaggtagag gctgcagtga gcttgatcag gcccctgtac tccagcctgg    18420
gtgacagagt gagacctgtc tcaaaaaaaa aaaaaaaaaa aaanaangaa gtaatgggca    18480
atgaagaaat ggcttgcagc tctcaggaaa ccagagcaca gcccttaccc tgctgcagag    18540
cagctgcaag gccttaagca gcccctgacc tgagcatctc cttccccttc tggaaaactg    18600
gcaggctgga ctcaatcact aagtgacctt ccagctccac catcgatgaa atgtataaat    18660
cagaccctgt tcagagagat tgatctggtg tctcacccac ctcctgtcag cctcaggctg    18720
cctagacctt aggggctct ggaatgcaga tgccgacgta agcaggcctt ctgctggcac    18780
cggaacacct gaaacaacag tgtttaaaaa caagagtttg gccccagcct gctccagatc    18840
tccccctcac taactgtggg atcctgggat catctttgag cctcattttc ctcacgggta    18900
acatatgaat aatagtacat attttgcagg gttgttagga ttaactgaaa gacagagaga    18960
gagagtgggt gtgcctgtgt gtgtgtgttt gtgtgtgtgt atgtatatat atatatattt    19020
tagagacagg gtcttactct gttgccgagg ttggtctcaa ctcctggctt caagtgatct    19080
tcctgcctcc atctcccaaa gcgctgggat tacaggcatg agctactttg cccagcctac    19140
tgtgtatatt tttaagacct ttttttttt gaagacacag tcacgctctg ttgcccagac    19200
tggagtgtag tggcatgatc atagttcact gtaaccttga actcctggcc tcaagcaatc    19260
ctcagctccc ttggagttgg gactacaggt gtgcactacc acacccagct aattttttaa    19320
attttttgta gagacagtct cactatgttg ctcagactgg tctcgaactc ctgggctcaa    19380
gtgatccttc tgccttgggc tcccaaagtg ctgggactgc agatgtgaac ccccatgtgc    19440
agccaagact ttattcttct agagcagttt taagttcaca acaaaattga gagaaaggta    19500
cagagaattc ccgtatctcc ctgtccccac atgtgcacag cctcccccgt gatcaacatg    19560
agttaatatt tttcaggagc ttaagatagt gccatgtaag tgtaggtcag taactgcttt    19620
ttggtcacga ctgtatgaca caatccacag gcatgccagc ctgggctggt gggtaggctc    19680
ggtcttgaag agggaggggt tgttctctgg aggtgggctg accctggcac ctggctggct    19740
ggtccccaca ggctggcaaa ggaggaggtg agccggcagg agctgaggca gcgggtgcgc    19800
atggctgaca acgaggtcat ggacgccttt cgcaagatca tggctgcccg gcagaagaag    19860
cggactccca ccaagaaaga aaaggaccag gcctggaaga ctctgaagga gcgtgagagc    19920
atcctgaagc tgctggatgg gtagccctca cccctgcctc aggctgatta tctggcctag    19980
gggaggggaa gggaggccca cttccttctt tgggcacagg aaacattggc ctgtggctgt    20040
ccctcaaatg gcggcagtct ctagagggcc gtggccct tc ccctgaggtc ttttggccta    20100
gctctgtaca accaggacac aggaagccct gctgggctag cctgaggcct agtctctgct    20160
tggtccccga gatggggttg gaggggactt cgtttctggg tcttcctctt cccctctta    20220
ccatccccca ctccctaatc ccctaccct gtctcccctt caaggacttc tcccttgtgg    20280
ttttgtaaag tgcaaactta agaataaagt gactgctgtg gttttcaaa aaaagca      20337
```

```
caccctgcag ctggagctgg agaccctgct gtcttctgcc agccggcgcc tgcgtgtgct     60
tgaggccgaa acccaggtga taaccccaga gaggggccag caccagagat ggactgcaac    120
aagttatggg atgggtcatt gagttagccc catatgctga gacttggggt acaggggttt    180
gtggggagag ggagagagac gcaacttggg tttgcatgac acaaaaaata cacaagaata    240
tgcatgatcc tcttaaattg caagatttct aattcagtaa gcttttattg gcaccccact    300
```

```
catcccccat tgtgttctgg gtcctatgct agtcattaga gaaaggtaat taggacagtt    360
atggctgtca gggagcttgg caactaggaa agtgagaaag tcaagtacat accaggtgat    420
gtgatgttgt ggttagcagt cctagggaac tggaatgggg aaacctggat ttgaatcctg    480
gcataagcgc ttgctagcat tgctgtttcc tagctatgtg actttgagaa agttgcctca    540
tatctctgag tgtcagtttc cctatctgca aagtggggtg aataatagga cctaccttag    600
tgcttttgtg aggattaaaa gagaattttt tgcaaaaact cagcccaatg ccagacacta    660
agtaagtact tcagatgtta tttatttgct actctgatga ctttattcac tgcataaaga    720
tgccttgagc cttgtgtgcc aggcgctatg ctgtattctg caaaatagag atggttaagg    780
tgggctttct ggtcctcagt agcttatggt ctagttgaag agacaaggtg tgatggtcat    840
tccagtgtga ccaaacaaca cgattgggtg cacgttggag ctgtgaagtg ccagagactt    900
gtggaggaag gaggtgccaa ctggacctaa aaggatgaat ggaattaact tgtccctggg    960
aatccatgga ccctccttga ggaaggctat gactcaagtt gtattttagc atctaagaac   1020
ctgggtaact gattgagaga aggcatctca gtagtggtga catcgaagtg aaggtttgct   1080
gagaggactc ttctgttaaa cagtatgtga ctggcatggg tgatacagaa gtgaatcagt   1140
atagatgaac aagtgaatga gattatgaga agtatatgaa taaagttcta ggaggacagg   1200
cacagaaaat gagctgaatt ttgaaggatg agtaagagtt tactaggtaa aaagaggatg   1260
gggaaagacc caggagcctc tgtagattct agatcctaat ttattcacta gaggaaagag   1320
atattctgtg tttccttg tccccctcag tgacactttc tgtaaatttc agatcctcac   1380
cgactggcag gataagaaag gtgacagacg attcctgaag ctgggtcgag accatgaact   1440
tggagctccc cccaaacatg ggaagcccaa gaagcagaaa ctggaaggga aggcaggaca   1500
tgggccgggc cctggcccag gacggcccaa atccaaaaac cttcagccca agatccagga   1560
atatgaattc actgatgacc ctatcgacgt gccacggatc cccaaaaatg atgcccccaa   1620
caggttctgg gctagagaac atagaagggg gcctcaaggt tctggtggtg gaggcactgg   1680
tggggcaggg gcgcccactc aggatctg                                      1708
```

<210> 5825
<211> 16342
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (12770)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (12771)
<223> n equals a,t,g, or c

<400> 5825
```
cctgacttcc acttccggct tgttgtgtcg ttccacaacc tgggaggaga agttctccag     60
gcagagggca gcctgcaatg tggcccgcac ggcactcagg tagggcgga gagtggcagt    120
ctataggaaa taacacagag gaaagggaag atcaaaatct gtcacgccaa acccaccgat    180
cccctattcc agctcccatg aagccaggta gcactgaggg tgcaaggctc ttaagacact    240
actgtgaaca gaacagacta ggccttcgag acgccttcca aggtgtagag tggtagtttt    300
caacaggaga caattttgcc tgccagggta catttggtaa tgtcgagaca tttcctttct    360
ttctttttta acctggggtc agaccagagg aatgctgaga cattttcaat tgtcatgact    420
tggcaagaac gggaactgga agcattcagt ggacagatat ccactaaaca tactacaatg    480
cactacatgc aatatcgaga ctcaaatatc aatagagctc acggagataa agggatctct    540
acacccacca gtgaatgcat gattgccgtc aatctattat gccaacaaat gtataggtgt    600
actgtttgcc actcactgag ctaactggga attcaaagat gattaacact gtctctaccc    660
tcaaacagct caactggata gcaaatatac agaaaataac tatgatataa agatgacatg    720
tgaaatattt agatttacaa gtaatctata tttgcagaag aaactggttt tgaaggtgaa    780
atgggattag gaggagaaaa aggagaataa ggacattctt ttttttttt ttttttgag    840
acagagtctc gctctgttgc ccaggctgga gcgcggtggc acgatctcgg ctcactgcaa    900
gctccacctc ccgggttcat gcccttctcc tgcctcagcc tcccaagtag ctgggactac    960
aggcgcccac caccacaccc ggctaacttt ttgtattttt agtagagaca gggtttcacg   1020
gtgttagcca ggatggtctc aatctcctga ccttgtaatc tgcccgcctt ggcctcccaa   1080
agtgctgggt ttacaggcgt gagccaccac accctgccag aataaggaca ttcttaggag   1140
```

```
agggattagc ttctagctgc actggtcagt ccttgtatca gccaaattct ttcccacctc    1200
agagctttac acatgcttga ccatctatct gtaagctttt ctcctctttc tttggctaag    1260
tcatctccag atctcagctt aattaaggaa ggccttttga cagagacctt gaaattcccc    1320
tataaagtat taattaccat tgacaaaaaa ctgttttcat gtttccttaa tattatcttt    1380
gcaagggatt ttccttctgg caccctcctg gaatcgaatg gaagattctt gtctcagcaa    1440
tacccgcgtc ctgtgttaaa caactttctc tgctcaatct cccggttaat ctccttccac    1500
gcgctctcaa accctccagc ctgggtgaca gagcgagact gtgtcttaaa aaaaaagaaa    1560
aagaaaaacc acttccaacg aactgtggtc cagccattca attaactact acttggtaat    1620
aaaaaaagag taactattga tacacacaac atggttgact ctcaaatgta ttatggtaag    1680
aagccacact taaaagcctg catactaaag aattccattt acatgacaat ctgaaaaagg    1740
caaaactaca ggggggaaaa atcagtagtt gtctggggtg ggaaggagag gactgattac    1800
aaaagggctt gagggaactt tttggggtga cggaaatgtt ctgtattttg gttgcagtag    1860
tggttacaca acttgacttt ttttttttaa gacacgggat cttgctatat tgtccaggct    1920
gaagtgcagt ggctattcac aggagtgatc acagtgtact acggcctcga acttctgggc    1980
tcaagtgatc ctcctgcctc agtgtcctga gcggatggta ctacaggcgc atgccaccat    2040
acccagcaag ttttttgcaac gctttttttt ttgagacgga gtcttactct gttgcccagt    2100
ctggtgtgca gtggcacgat ctcgactcac tgcaagctct gctttctggg ttcacgccat    2160
tctcctgcct cagcctcctg agtagctggg actacaggtg cccaccacca cgcccggcta    2220
attttttgca tttttagtag agaagaggtt tcaccgtgtt agccaggatg gtctcgatct    2280
cctgacgtcg tgatccgccc gcctctgcct cccaaagtgc tgggattaca agcgtgagcc    2340
accacgcctg gcctttgtca acagttatag aaagtaaacc taaaaagggt gactggctcc    2400
gtgacgcctg tcctttcatg aataaaacag atgtagtctc atgtaatacc tcaataaact    2460
tgaactttta aaaatcaaga ggcatgtgcc ccactagaaa aaaaaatac agattttttag    2520
cagagacatg aggtcacaaa agtttgccag gatagggaac ccaggaggaa gaacaaattt    2580
agaatagaat atgagttttg aactagaggt ctaatttcaa ggtctcttca agatatccag    2640
gcaaaccttg aaagagagct gagaagccag attaggagtc atcagaatga agaaagttat    2700
cgaagccagg agactagatc ggtatcacca gggaaggtgt gacgaagagg gagatggtca    2760
tccaaagtca caactcccag gaatgcccac acgtatgaaa aaggcccaca tgtatgaaaa    2820
aggcccacat gtatgaaaaa gggaggactt ccaggaaggg agggatgagc agtatcacag    2880
ctaacataca ctaaggctga cacagttcag ttctgaccag gaagggcctg aatggaagca    2940
acacgagaga tcctccaatg gggtggaagc agggctggag gtaccaagaa tgggataagg    3000
aagtgtggcc gcctgcctta agcaactgta gggtcaggaa ggcagaagag gacaaagggc    3060
gtatgtcgtg aagttccact gtggataggc aggtggactt gcttcatgcc tcagaggcta    3120
agaggccgac tacgtaccct cgaaatgctc caaagagcct aggagacccc acttccgggt    3180
tcctacaggg ctcaggaaaa gcccctacct gcttcgaagg ctgaccgtga agccacaagg    3240
cccacttcat accagggagt acccccactc gccccttcct cacctcgggc ccccgccccg    3300
tctctttttc ccaccctcat cgtgtcccca caacccccgg acatccctcg gccccgcgcc    3360
cctgcggcaa agccacatct cccaccgacc cactgccctg aggccgaaca gccgggggtc    3420
cctggccggg ggcccggctc tctcaccatc gcgggcgctg gctgggccgg aaagcggaag    3480
tacggaagtg gccagccccg cgatgcctgc cctttcgcga gaagcgcagc tacggtctcc    3540
gcccggactt ccggacggta ccatctatgc tccgagcggg gtagagagcc cttacgaacg    3600
cttgggcctt ccggaagttt tccacctagg gctgtctcgg tattttttaaa ttcttgcact    3660
cgagtcacta tttaagctcc tccaggaatg ggtgcagctt ccctttgtgc cttcggcctt    3720
gttgtcacct ttgccacagc ctccccagg tatgcaatgg tacagcccag cttcagattg    3780
ggcaccaaat taggacaagc cgaagcggac gagtctttcg tttcttccgg ttatgaaccc    3840
ccatctcttt ctctcgccct tcttacccgc agctcctggc gctcagtggg gctaactgca    3900
gtgcggagat cctcggacgc caagctccgc cttccgcccc gggctgtgcc ccggggctcg    3960
catgagcccg tccattcgca cccccacctct agcggctttg ctcgtggccc accttcttcc    4020
cacccccggt aaactccagt aggctcgccc tcgctgactc cccgcccccg cgtcaactgc    4080
aaggggcccg cccatagcca gttccggggc ggttgctcac atcgaccgga actccccgcc    4140
ccctcccgcg gccctggggg ccgtaggagg ccgcagcgag gaggtagagg gggcgggggt    4200
cgcactaggg tgtccctaga gaacgaggac tctgaaggcg ggacatttgg gcgaccccg    4260
ggcggggcca gccattaaac agtcccactt ctgtgccaga cagctgaact gggctcttga    4320
cgggcatcat ctcttaatcc tcagaacatc ccaggaggt aggtactatt gttatcccca    4380
tttttcagat tcagactttt aatgggaaa cagaccgaga cttctttgt ccccattta    4440
cagatggaaa aactgagact gaaaaaggtc aaataacatg ttcaggggca tataagtaga    4500
gaatggtaaa gcctgggctt gaacccaggt ctgtctggct taccagccca cgttctaaac    4560
cactgttagt gactagagaa gggagaaagg tggaataggg taagaaaaga ggccaagagt    4620
cccagagaac atggtaagaa tggggtgctt ggaactcaaa gtcttagcag aacccaagag    4680
aaatagaagg gaaggaaaga gcatcagaaa ggcgaggcaa ggcatagcag tatagcatgg    4740
tgatcagggt gcagactcaa gactagcggg gttcaaattg catcttggaa gcataggcac    4800
```

2751

```
atacccaccc ttacagagtc tcagtttctt tctctgtaaa aacgagatca caatggtcct 4860
tgttcatggt gctgagtgag aaattcagtg agataaactg ataaagtgct ctgcacctag 4920
cttggtaccc agttaagtgc cctgtgagta ggaactgtgc catcaatttt gtcagtaagg 4980
gactgaagct gggcttcctt gaggctgtcc ctggaggtaa gaagcccttg ggcttttctc 5040
agaccacttt gtctcccatc aatggccctg tcctctccag ctccacagga tccccatatc 5100
ctgggccatg agtgagttga aagactgccc cttgcagttc cacgacttca agtctgtgga 5160
tcacctgaag gtctgtcccc gctacacggc agtgctggca cgctctgagg atgatggcat 5220
cggcatcgag gagctggaca ccctgcagct ggagctggag accctgctgt cttctgccag 5280
ccggcgcctg cgtgtgcttg aggccgaaac ccaggtgata accccagaga ggggccagca 5340
ccagagatgg actgcaacaa gttatgggat gggtcattga gttagcccca tatgctgaga 5400
cttggggtac aggggtttgt ggggagaggg agagagacgc aaactgggtt tgcatgacac 5460
aaaaaataca caagaatatg catgatcctc ttaaattgca agatttctaa ttcagtaagc 5520
ttttattggc acccccactca tcccccattg tgttctgggt cctatgctag tcattagaga 5580
aaggtaatta ggacagttat ggctgtcagg gagcttggca actaggaaag tgagaaagtc 5640
aagtacatac caggtgatgt gatgttgtgg ttagcagtcc tagggaactg gaatggggaa 5700
acctggattt gaatcctggc ataagcgctt gctagcattg ctgtttccta gctatgtgac 5760
tttgagaaag ttgcctcata tctctgagtg tcagtttccc tatctgcaaa gtggggtgaa 5820
taataggacc taccttagtg cttttgtgag gattaaaaga gaattttttg caaaaactca 5880
gcccaatgcc agacactaag taagtacttc agatgttatt tatttgctac tctgatgact 5940
ttattcactg cataaagatg ccttgagcct tgtgtgccag gcgctatgct gtattctgca 6000
aaatagagat ggttaaggtg ggctttctgg tcctcagtag cttatggtct agttgaagag 6060
acaaggtgtg atggtcattc cagtgtgacc aaacaacacg attgggtgca cgttggagct 6120
gtgaagtgcc agagacttgt ggaggaagga ggtgccaact ggacctaaaa ggatgaatgg 6180
aattaacttg tccctgggaa tccatggacc ctccttgagg aaggctatga ctcaagttgt 6240
attttagcat ctaagaacct gggtaactga ttgagagaag gcatctcagt agtggtgaca 6300
tcgaagtgaa ggtttgctga gaggactctt ctgttaaaca gtatgtgact ggcatgggtg 6360
atacagaagt gaatcagtat agatgaacaa gtgaatgaga ttatgagaag tatatgaata 6420
aagttctagg aggccaggca cagaaaatga gctgaatttt gaaggatgag taagagttta 6480
ctaggtaaaa agaggatggg gaaagaccca ggagcctctg tagattctag atcctaattt 6540
attcactaga ggaaagagat attctgtgtt ttcccttctc cccctcagtg acactttctg 6600
taaatttcag atcctcaccg actggcagga taagaaaggt gacagacgat tcctgaagct 6660
gggtcgagac catgaacttg gagctccccc caaacatggg aagcccaaga agcagaaact 6720
ggaagggaag gcaggacatg ggccgggccc tggcccagga cggcccaaat ccaaaaacct 6780
tcagcccaag atccaggaat atgaattcac tgatgaccct atcgacgtgc cacggatccc 6840
caaaaatgat gcccccaaca ggttctgggc tagagaacat agaaggggggc ctcaaggttc 6900
tggtggtgga ggcactggtg gggcagggc gcccactcag gatctgcttc tccctgcagg 6960
ttctgggctt cagtggagcc ctactgtgct gacatcacca gcgaggaggt ccgcacactt 7020
gaggagttac tgaagccccc agaagatgag gctgagcatt acaaggtaga aactctgggc 7080
cttgatagac atgatgcgga acaagagagt tcagaggtgc ctgagaagta aagctaccaa 7140
agccatgcat catcttcctt ccccaacccct gcccaggctg ctgtctgctc catcagtgcc 7200
tccagacacc taggcccaaa ctcagctttc tccgggcact gactcccctc taccccagcc 7260
aaatgtcaac acgccctcaa gcatctactt aagtgaagtc tgcccatgtt cctttatccc 7320
catccctct gctttggtcc aagccttcat caacttctat ccaaacagcc tcttaactct 7380
cttcctgttt cgaggcctct ggaggaacct ttcttctttc tttaagatat aaaacttggg 7440
ctgggagcag cggcttatgc ctgcaatcct agcactttgg gaggccgggg cgggcagatt 7500
gcttgagctc aggaatttga accagcctg agcaacatgg tgaaacccca tctctaccaa 7560
aatacaaaaa attagccagg catggcggtg cgcgcctgga gtcccagcta ctcgggaggc 7620
tgagtcagga ggatctcttg gacccgggag ggggaaggtt gcatgagccg agaacacgcc 7680
actgcactcc acgctgggca caagaacaag actctctctc caaaaaaaaa aaaagatat 7740
aaaagtcacc tcacgcctgt aatcccaaca ctttgggagg ctgtggcagg cagatcatct 7800
gaggtcagga gttcaagacc agcctgacca acatggtgaa acgccgtctc tactaaaaat 7860
acaaaaatta gcctggcacg gtggcatgca cctgtaatcc tggctactcg ggaggctgag 7920
ccaggaaaat cacctgaact ggggaggcat cggttgcaat gagccaagat cgtgccactg 7980
tattccagcc tgggtgacag aaggagattc catccattaa aaaaaaaaaa gccgggtgcg 8040
gtggctcaag cctgtaatcc cagccctttg ggaggccgag gcgggcagat cacaaggtca 8100
ggagattgag accatcctgg ctaacacggt gaaaccccgt ctctactaaa aatagaaaaa 8160
attagccggg cgtggtggcg ggcgcctgta gtcccagctg ctcgggaggc taaggcagga 8220
gaatggcgtg aacccgggag gcggagcttg cagtgagctg agattgtgcc actgcactcc 8280
agcctgggtg acagagcaag actctgtctc aaaaaaaaaa gaagatataa aactatgttt 8340
taatgatgaa aataaataaa acatgctcca ttaaagaaaa tttagaaaat acagaaaaat 8400
gttgagggag aatcctccca taggtgagct gtcatgatca gatgtgctca tgacatggcg 8460
```

2752

```
ctgcatccag gccttttcttc ctcccgttat ctacaggatc aagtccacgc atcccagtcc    8520
ttgctggcac agctccagtg cccctctcca ttttcctcgg ccatatccct cttcattgcc    8580
gtgttgacca gtcccaccaa gtatctcgcc ctcattccag gacaccacag cctcctcgct    8640
ggtctctggg cctctggcaa gctcttctct ccctcttgtc tccttgacag acttgactca    8700
cccttcaagg ccctgatctc atgttacctc caccaaagca ctctttcaga ttccccagca    8760
gaaagttagt cagtctctcc tttgtgctgc cacaacactt tgatctctct ctttcacttc    8820
acttatctga tttcttaaaa atttatctga aaaagagttc atacagacag cagtaaattc    8880
aagcaataca aaaggtaatt ccctgtcacc cgtgacctga aggctcctaa ttctctcgag    8940
aggcaattgc tgtgacctga dacaatctgt gtacgtattc tgcaccttct atcttgggaa    9000
ttatttcaga ttggcttctg tgtgtgtgtc ttagttcttt ttggacctgt ctcccttact    9060
agagtgtgaa gtacaggttt tatcttcgtt gtactttctt acctacacct gacactgggc    9120
ttggccttgg actagggact tgagagagat ataagatagg taagtgaatg aatgaatgaa    9180
gcatggctgg ccagtgctta cccactcagg gttgggtgcc atctttttcca cagatcccac    9240
ccctggggaa gcactactcc cagcgctggg cccaggagga cctgctggag gagcagaagg    9300
atggggcccg ggcagcggct gtggctgaca agaagaaagg cctcatgggg ccactgaccg    9360
aactggacac taaaggtagg cctctcacct ccctgccaac cccaggtcag gacttgaatt    9420
ccagaacttc agcccacctc ccctcctttc ctgtgcccgc ttagatgtgg atgccctgct    9480
gaagaagtct gaggcccagc atgaacagcc ggaagatgga tgcccctttg gtgccctgac    9540
gcagcgcctc ctgcaggccc tggtggaggt gagcagccta acccaaaaga ggaaccatat    9600
ttactttgtg ttttaatgtg ttatgcttat tttttatcgg aatttatcat acatttatta    9660
ggttggtgca aaaataggtt ggtgcaaaag taaaaacctg gactaatata tagcaaaaga    9720
ttgggaataa tatataactt gtgcacctaa tagaaaagtg cacagatcat aaatgtacag    9780
ttttcacaaa tgagcttgta ttaccagcct ggagattaca aaatgaaaca ttactatatc    9840
ctagaagccc ctctcatgcc cctgttttttc tccaactttc cccaaaggta gccttactcc    9900
acaattactt ttgctaagca tctgttggag gggctttata cacatcctcc cactggaggc    9960
caggacagtg gttaacgctg tgttacagat aagaagattg aggctcagaa aagggaactg   10020
ttcacttgag gtctcacaca ccaggattca aaccctagct tcaggggccc tgtctttata   10080
cctgctggtt gaccttagac acaccctcac actctttcac ctcattgaga ctcagttttc   10140
tattctggct caaacacaag agtttatctc atggaacagt ctgggtacat gttgcaggtt   10200
atctaaggta ggggaagggg caggtctcta tctcatatca tcagacaggg accccagctg   10260
acggtggcct tgcagtctgc acaaggtcac tctgggcgta attgtcactc cagtcccaca   10320
gaataagagc aaggaggccg ggcgcggtgg ctcacgcctg taatcccagc actttgggag   10380
gctgaggcgg gcggatcaca aggtcaggag atcgagacca tcctggctaa catgatgaaa   10440
ccccgtctct actaaaaata caaaaaaatt agccgggcat agtggcaggc gcctgtagtc   10500
ccaactactt gggaggctga ggcaggagaa tggcatgaac ccaggaggcg gagcttgcag   10560
taagccgaaa ttgtgccact gcactccaca gcctgggtga caaagtgaga ctccatctca   10620
aaaaaaaaaa acaaaacaaa acaaggagga gtgtgtgaag gaaacttttt ggcccatgcc   10680
tagctatggc tcttatctct tctgatcact ttcccctgga gagaacttgt cacatgacca   10740
tacccgcctg caagagagcc tgggaagtac aactggacag gcattgccta gctgccgtgg   10800
aggaaagaag agtatggcat tcggacagct agcatctccg ccacagcagg cctagcacac   10860
tgcctggtgc gttgcagacg cttcacaaac cttagctgtt cattaccatc attgagtgtt   10920
aatcatttct cttctgtgtt ccttttttctt cacatcagta cgaaaataaa agggatttct   10980
agaatgatca aagcaatttg ggattggtat gggaaggctt cccacggtag gtgggatggg   11040
aaagataaaa ggatatttct ggtgtttgaa gactgtcagt gtaggtcaga aaggagcagg   11100
aaagtggaac agctattttt ccttccactc attttttgtgg tcttctagga aaatattatt   11160
tcccctatgg aggattctcc tattcctgac atgtctggga aagaatcagg ggctgacggg   11220
gcaagcacct cccctcgcaa tcagaacaag cccttcaggt gagtggtgtc ctatccacaa   11280
cccacagtct ggccccgct tctgttggct tctctccatc tcaacctggg gaagtcctca   11340
tcagtaagag gctggggggca gttaggtgaa gcctaatagc agtctcaagt gtgagtgatg   11400
acccagcgtg tctgcatgca cagactgagt gcagggttgg tcagcacaaa actgttcata   11460
ccataaatta accaaaaggt cctgttgaag gggaatgttg gctaaattgg cataactcca   11520
tatgatgaaa taacttgggg ctataaatca tatatctgca agtatataga aatatagtta   11580
aatgacatga aaagatgtaa attatagagt gacaagtgga gaaaatatta gttgtagccc   11640
agtatggatg gtataatact atttttactt aaaatatatt tcttttttttc tttttctttt   11700
ttttttttttg agatggagtc tcgctcttgt cgtttaggtt ggagcgcaat ggcgcaatct   11760
tggctcactg caacctccgc ctcccaggtt caagcgattc tcctgcctca gccaccaagt   11820
agctgtgatt acaggcgcct gccaccatgt atggctcatt tttgtatttt tagtagagac   11880
ggggtttcac catcttggcc gggctggtct tgaactcctg acctcaggtg atcctcccac   11940
ctcggccttc caaagtgctg ggattacagg tgtgagccac catgcctggc ttacttacaa   12000
tatatttaaa tatgtgcaca taagggaaaa aacctggact aatatgtagc aaaagattag   12060
gaataatata taacaaaatc tggaatatat ataataatat ataacaaaat aatagtaatt   12120
```

2753

```
ctctctgggt tgttggcatt atgggttttt ccatatttt tgaatagtag atacatacgt    12180
tgcttgtttt aaaaaccaga ccagatgtgt ctgtccctcc ctttgtatct ggatagatac    12240
agaggggtg cccaaaggga aaggcaggtt ttcactgacc ttgggaagcc ctgggaacct    12300
ccaaggtggg cccttctcca agctggctct tgagtctgac gggcctgcct cccgctgcag    12360
tgtgccgcat actaagtccc tggagagccg catcaaggag gagctaattg cccagggcct    12420
tttggagtct gaggaccgcc ccgcagagga ctccgaggat gaggtccttg ctgagcttcg    12480
caaacggcag gctgagctga aggcacttag tgcccacaac cgcaccaaga agcacgacct    12540
gctgaggtga gcgttagcag gatgcacagt cccgggggtg gccttggagg ctgtggccac    12600
ggctagtcac cttttcagggg ttttacaaca ggctttccaa tcctggctgg cctctaaatc    12660
acctggagag cctcgaaaaa aacagcagtg gccagtccac cgggtatgtc ccaaacaaat    12720
tctgattcca cagagtgggg ctcaggcatc tgtgactgac cgattgattn ngattgtttt    12780
ttttttttt tttttgagg cggagtctcg ctctgtcgcc caaggctgga gtgtagtcgt    12840
gcgatctcgg ctcactgcaa gctccgcctc ccgggttcac gccattctcc tgcctcagcc    12900
tcccgagtag ctgggactac aggcgcccgc caccacgccc ggctaatttt ttgtattttt    12960
agtagagacc gggtttcacc gtgttagcca ggatggtctc gatcttctga cctcgtgatc    13020
cacccgcctc ggcctcccaa agtgccggga ttacaggcgt gagccactgc gcccggccta    13080
gtttggtttt ttaattatgg taaaggcata atataaaatg tatctccatg ggaggctgag    13140
gcaggagaat cagttgaacc tgggaggcgg aggttgcagt gagctgagac tgcaccattg    13200
cattccagcc tgggcaacaa gagtgaaact gcatctcaaa aaaaaaaga aaaaaaattt    13260
acgcttctta accatttta agtgtacagt ttagtagtgt tacccatatt cacattgttg    13320
tgtgatttat ttttgtctt ttcatgcttc ttttcttttt atccccaaag ttttgttatt    13380
aaaaatttga tacacacaga aaatctgaaa gaatcataca ataaacatca gtatattctc    13440
cacctagact aattaactgt taacattttg ttggagatct gtgattttta tttgctcatc    13500
acaagaaatt gaccagtgtt ttaggacatg ttcttttggg aatccatcac agtgcctgcc    13560
attcatttga tgtcaactcc catccatctt gttctgcatt gatcacgagg gtataggtga    13620
catcttgagg aagactgtgg aatagctacc ctttaggtaa agagataggg aagcaacccg    13680
aacaagtctc tttgcttctc acagacaagt gctgtgtctt aacttcatag agccctgaca    13740
ggacagggca cattcattca tttggccttt tttttttttt tttgagacgg tgtctcactc    13800
tgttgcccag gctggagtgc agtgccatga tctcggctca ctgcaacctc cgcctcccgg    13860
gttcaggcag ttctcctgcc tcagcctcct gagtagttgg gattacaggc atgcactacc    13920
atgccaggct aatcatttgg ccattcttac tgtctcttag atattgtgct gggggccagc    13980
aagagaggca gagcaaggga cttgcagatt actagcagat gatcagtaaa gataagtgcc    14040
attaaaagga gaggtagttg ctgacaagct gtcagggtat ttaaggataa gagtgactaa    14100
tgtatgctga gggcctactg tgtgtcaggg gctttatgta cactctctca agtgtcttga    14160
caacaaccca ggagggagga gctattttcg ttgtttacca gatgaggaaa taaaggccca    14220
gtgaagcgaa atgctctgct gaaggtcaca cagtcaataa acagcaagct gagacttgaa    14280
cctgtggttg aatcaaagcc tctttctata atagtttgtt ttctctgaaa ggtgagaaga    14340
agaaaacaca gatggaagag gcactgaggg aagcagaggg agagagagga agagagagaa    14400
aagcaggcat gtgcagttac agaagtagtg ggccctagct gggcctggtg gctcatgcct    14460
gtaatcccag cactttggga gactgaggtg ggaggcttgt ttgagctcag gagttcgaaa    14520
ctagcctggg caatgtagtc agacccccctt ctctactaaa aattttaaa aatcagctag    14580
gcatggtggc acatgcctat agtcctactc aggaggctga tgtgggagga ttgcttgatc    14640
ctgggaggta gaggctgcag tgagcttgat caggccactg tactccagcc tgggtgacag    14700
agtgagacct gtctcaaaaa aaaaaaaaaa aaaaaaaaa gaagtaatgg gcaatgaaga    14760
aatggcttgc agctctcagg aaaccagagc acagccctta ccctgctgca gagcagctgc    14820
aaggccttaa gcagcccctg acctgagcat ctccttcccc ttctggaaaa ctggcaggct    14880
ggactcaatc actaagtgac cttccagctc caccatcgat gaaatgtata aatcagaccc    14940
tgttcagaga gattgatctg gtgtctcacc cacctcctgt cagcctcagg ctgcctagac    15000
cttaggгggc tctggaatgc agatgccgac gtaagcaggc cttctgctgg caccggaaca    15060
cctgaaacaa cagtgtttaa aaacaagagt ttggccccag cctgctccag atctcccct    15120
cactaactgt gggatcctgg gatcatcttt gagcctcatt ttcctcacgg gtaacatatg    15180
aataatagta catattttgc agggttgtta ggattaactg aaagacagag agagagagtg    15240
ggtgtgcctg tgtgtgtgtg tttgtgtgtg tgtatgtata tatatatata ttttagagac    15300
agggtcttac tctgttgccg aggttggtct caactcctgg cttcaagtga tcttcctgcc    15360
tccatctccc aaagcgctgg gattacaggc atgagctact tgcccagcc tactgtgtat    15420
atttttaaga ccttttttt tttgaagaca cagtcacgct ctgttgccca gactggagtg    15480
tagtggcatg atcatagttc actgtaacct tgaactcctg gcctcaagca atcctcagct    15540
ccccttggagt tgggactaca ggtgtgcact accacaccca gctaatttt taaattttt    15600
gtagagacag tctcactatg ttgctcagac tggtctcgaa ctcctgggct caagtgatcc    15660
ttctgccttg ggctcccaaa gtgctgggac tgcagatgtg aaccccatg tgcagccaag    15720
actttattct tctagagcag ttttaagttc acaacaaaat tgagagaaag gtacagagaa    15780
```

                                    2754

```
ttcccgtatc tccctgtccc cacatgtgca cagcctcccc cgtgatcaac atgagttaat   15840
attttttcagg agcttaagat agtgccatgt aagtgtaggt cagtaactgc tttttggtca   15900
cgactgtatg acacaatcca caggcatgcc agcctgggct ggtgggtagg ctcggtcttg   15960
aagagggagg ggttgttctc tggaggtggg ctgaccctgg cacctggctg gctggtcccc   16020
acaggctggc aaaggaggag gtgagccggc aggagctgag gcagcgggtg cgcatggctg   16080
acaacgaggt catggacgcc tttcgcaaga tcatggctgc ccggcagaag aagcggactc   16140
ccaccaagaa agaaaaggac caggcctgga agactctgaa ggagcgtgag agcatcctga   16200
agctgctgga tgggtagccc tcacccctgc ctcaggctga ttatctggcc taggggaggg   16260
gaagggaggc ccacttcctt ctttgggcac aggaaacatt ggcctgtggc tgtccctcaa   16320
atggcggcag tctctagagg gg                                            16342


<210> 5826
<211> 22129
<212> DNA
<213> Homo sapiens

<400> 5826
aattttttgta ttttttaatag agatgggggtt tcaccatgtt ggccaggctg gtcttgaact     60
cctgacctca tgatccaccc acctcggcct cccaaagtgt tgggattaga ggcatgagcc    120
accacgcccg gctctttttt gccttttcta tggctgaggt agacccaact tttcctaagc    180
ttctaatcct cttttgctccc actccaagat gaaggccaac tctcaattca ggcagtgggt    240
gccaaacagc tggagtagct ggttctagaa acaatcccag gccattctgt aacagggtcc    300
tgggtatcgc aaactcatgg gtcacagggt ctcacctcca caggcttcct tcgaaggata    360
aagaagttct ctgctcgcat catcatgaag cgcatgaact tgtggcacaa aatcttctcg    420
atctcatcag cctggggagt gcaagagaga aatgtttctc taaagctgac acccaaggcc    480
aaaaacacct tgtagcctgg tcttctgact ccagttttttt caaggctccc aggagacagt    540
gaggtttggt actcggaagg atcactgaag tgggggacct ggctgtcaac tgaaacaagg    600
gtctaccttg gggcatctct taatgacgac ccattccaga gaggtaattc tgacaggctt    660
ctattgcttc tttcagagtc tacagctgta ctccaagctg cccctttccat tctcatttca    720
ctagtgtcac atttcccagg gtgttttgca gcatcacctg ggctatcaga gataaccttc    780
ggtggtctct gctttaataa cactgaacat ccaacaatcc ctgaagtttc tcccttctga    840
atgctcaaca ttctttttttt ttttttttttt tttttttttc tgagatggaa tctcgctctg    900
tcacccaggc tggagtgcag tggtacgatt ttgactcact gtaagctctg cctcccgggt    960
tcaagcgatt ctcctgcctc agcctcccaa gtagctggga ttacaggcgc gtgccaccac   1020
gcctggctaa tttctgtatt tttagtagag acaggggtttt accatgttgg ccaggctggt   1080
cttgaactcc tgacatcaag tgatccaccc gccttggtct cccaaagtgc tgggattaca   1140
ggcatgagcc actgtgcctg gccctgaact ctcaacattt ctaaaggaag attattgctg   1200
ctggttgcta gcatgccctt aacacctctc aacacttgtt aacctcccat tttagcaagg   1260
aaagcaggcc ccaggtttat aagtttctgt agaaaacagt gtgtagtctg catttaataa   1320
cagtgcttcg tttttcatcct gttgaaagtt tagagttgcc ctctactggc caggcatggt   1380
ggctcatgac tgtaatccca gtactttggg aggttgaggc gggcccatca cctgcggtca   1440
ggagatggag accatcctgg caaacatggt gaaactctgt ctctactaaa aatacaaaaa   1500
ttaactgggc gtggtggcgg atgcctgtaa tcccagctac ttgggagact gagacagaag   1560
aactgcttga acccgggagg cagaggttgc agtgagctga gatcatgctg ctgcactcca   1620
gcctgggcga caagagtgag aatccgtgtc aaaaaaaaag gaagcagagg ctaggtttcc   1680
tgcactctga atctggaatc tggcacactg atctctcaga tggggacccc ggactgaaag   1740
aggctgaaag gactgaaaga ggccttacgt tgggcctcct ccatggtgaa cttacctgtt   1800
tcacagcaat gctgacccgg acagagttga tggagccctc aatcagaacc ttttccttct   1860
cattcctgct gatggtcaca ggttgtaaca ggagctcttt gctactcctg aaaacataat   1920
gtgacagagt acttgtacta cagagggata gaatagtcag agtgacccca cgcaggtcct   1980
ggaatcacta tgagaccata gagtccaagg aatagaagac tcacaagcag gagtgctcca   2040
agatgggggc cagtgagtgt gttcttcagc agaaagagca caggctctga agtcagggcg   2100
aaaaggtttt gaaatccagc ctcctctgtt actttccttg ggcaagttac cctgttggaa   2160
tctcaatttt ctcatctgta aaatgactct gattcctaat tcactggcga ggactgagag   2220
agatcaaaaa gggtcaaatg tctaatagcg tgcctggcac atagtaggag ctttacaaaa   2280
gatagctatt ttagtaacta caagttgaac atccccaatc tgcaaatctg aaatccaaaa   2340
tctgaaactg gctgggcaca gtggctcatg cctgtaatcc cagcactttg agaggctgag   2400
gctggtggat cacctgaggt caggagttcg agaccagcct ggccaacatg gtgatatccc   2460
atttgtacta aaaatataaa aattagctgg gcatggtggc gcactcctat aatcccagat   2520
actcaggagg ctgaagcacg agaattgctc gaactcagga ggtggcagtt gcagtgagcc   2580
```

2755

```
aagatcatac cactgtactc cagcctgggt gacagaatca aactccatct caaaaaaaaa    2640
aaaaaacctg aaagtttccg agtgctgaca agatgctcaa aggagatcct cattggagca    2700
ttttggattt ggaattaggg atgctcaact ggttaagtat ctgcaaatat tccacaatct    2760
gaaatacttt tggtcccaag cattttggat aagagatact caacctgtac aggcaaacca    2820
atataccatt taggaataca gagagaacac ctgtcttaga ggtaaggaaa ggctaaaatt    2880
gaacacagtt tggcttcctt taattatcaa tccagaaatg attcatttgc ctctgagacc    2940
cctatgagtt caggttacaa agtaatgcct ctgaatacct agagatctct aatagtaatt    3000
aattgtggtg tggtgtctct aaactgctaa ccattttcaa aggcccactg gaaatcgtgt    3060
acgttacaca gtataacagg gcatatccta acatctttat cagttatttt taaaattaaa    3120
aattaaatcg tatcatttaa tgttgtaacc cagattatct cagttatgta tgtaccagaa    3180
tgaattttat tttattttat tttattttat tttatttttg agacgaagtc ttgctctgct    3240
gccaggctgg agtgcggtgg cacgatcttg gctcactgca acctccgcct cccaggttca    3300
agcaattctc ctgcctcagc ctcccgagta gctgggacta caggtgcata ccaccatgcc    3360
cagcttattt ttgtattttt agtagagaca aggtttcacc atgttggcca ggatgctctc    3420
gatctcttga cctcataatc tgtctgcctc ggcctcccaa agtgctggga ttacaggcgt    3480
gagccactgt gcccggccta tttacttatt ttttgagaca gggtctcacc caggctggag    3540
tgcactgtcg caatgttggc tcattgcaac ctctgcttcc caggctcaag agatcctcct    3600
gcctcagcct ccagagaagt gggactacag gcatgtgcca ccatgcctga ctatttttgc    3660
atattttttt ggtagagatg gagtcttgcc atgttgccca ggctggtctt gaactcctgt    3720
actcaagcga tctacccact tcagcctcct aaagtgctcg gattacaggg gtgaaccact    3780
gcaccaggcc tccagattaa attttaaagg ggaaaaagat atttatgaaa tggaaactag    3840
ataagagaaa atcattcaaa atatgaagta tttggattag ggggtcagag tgtctaggct    3900
ggtaggtaaa aaaaaaatcc ctgatcatta cattagaaaa gtatggagat gggaaaaaaa    3960
aaaaaaaaaa agaaaagtat ggagatggaa tctcagataa caattatctg accattcctt    4020
aaactaccag tgttttcaac aatgccacag gagagacttc atcaacagcc ctgctctgag    4080
aagtcatacc ttgtgttaac caatcttgtc ttttcccctg ggttctgtcc tgccaccca    4140
ctgaccctat tttcttaact ccaaattggg aatcaccatt cagctggcag caagacaaaa    4200
tgtcaactgc agctttcctg actactgcag gacataagtt catggcacct tctagacagc    4260
agccatctct gtgtgctgca cccctcatcc ccaccttgac ttgtccttcc ctacctgact    4320
tccacttccg gcttgttgtg tcgttccaca acctgggagg agaagttctc caggcagagg    4380
gcagcctgca atgtggcccg cacggcactc aggtaggggc ggagagtggc agtctatagg    4440
aaataacaca gaggaaaggg aagatcaaaa tctgtcacgc caaacccacc gatcccctat    4500
tccagctccc atgaagccag gtagcactga gggtgcaagg ctcttaagac actactgtga    4560
acagaacaga ctaggccttc gagacgcctt ccaaggtgta gagtggtagt tttcaacagg    4620
agacaatttt gcctgccagg gtacatttgg taatgtcgag acatttcctt tctttctttt    4680
ttaacctggg gtcagaccag aggaatgctg agacattttc aattgtcatg acttggcaag    4740
aaggggaact gcaggcattc agtggacaga tatccactaa acatactaca atgcactaca    4800
aagaattatc gagactcaaa tatcaatagt gctaaggttg agaaagtgat ctagagacac    4860
accagtgaat gcatgattgt cgtcaatcta ttaggccaac aaatgtatag gtgtactgtt    4920
tgccacgcac tgagctaact gggaattcaa agatgattaa cactgtctct accctcaaac    4980
agctcaactg gatagcaaat atacagaaaa taactatgat ataaagatga catgtgaaat    5040
atttagattt acaagtaatc tatatttgca gaagaaactg gttttgaagg tgaaatggga    5100
ttaggaggag aaaaaggaga ataaggacat tcttttttttt ttttttttttt tgagacagag    5160
tctcgctctg ttgcccaggc tggagcgcgg tggcacgatc tcggctcact gcaagctcca    5220
cctcccgggt tcatgccctt ctcctgcctc agcctcccaa gtagctggga ctacaggcgc    5280
ccaccaccac acccggctaa cttttttgtat ttttagtaga gacaggggtt cacggtgtta    5340
gccaggatgg tgctcaatct cctgaccttg taatctgccc gccttggcct cccaaagtgc    5400
tgggtttaca ggcgtgagcc accacaccct gccagaataa ggacattctt aggagaggga    5460
ttagcttcta gctgcactgg tcagtccttg tatcagccaa attctttccc acctcagagc    5520
tttacacatg cttgaccatc tatctgtagg ctttctcct ctttctttgc ctaagtcatc    5580
ctccagatct cagcttaatt aaggaaggcc tcttgagaga gaccttgaca tccccctata    5640
aagtatttat tacaattgac aaaaaaatgt ctttcatgtc ttcttaatat ttatttttga    5700
gagggagtct cgcttctgtc accctcgctg gagtgcagtg gcacgatctc tgctcacggc    5760
aatcgccgcc tcctgggtta aagcgattct cctgcttcag cctcccgagt agctgggatt    5820
acaggcgcac atcaccatgc ctggctaatt tttgtatttt tagtagagac ggagtttcac    5880
cgtgttggtc aggcttgtct tgaaatcctg acctcaggca atccgcccac ctcggcctct    5940
caaagtgttg ggattacagg cgtgagccaa cgtgcctggc ctttttattt ttttttttgag    6000
acagagtctt actctgttgt ccaggctgga gcgcagtggt gcaatcttgg ctcactgcaa    6060
cctccacctc ccgggttcaa gtgattcacc tgcctcagcc atgcgaatag ctgagatgac    6120
aagtgtgcac caccgtgcct ggttaatttt tgtattttta gtagagatgg ggtttcgcca    6180
tgttggccag gctggtctca aactcctgac ctcaagtgac ccgcccatct cggcctccta    6240
```

2756

```
aagtgctggg attacagaca tgaaccactg cacctgccct ccttcatgcc tttgtaagtg    6300
atttctcctt tactaggctg taaacctcat ggtcaacaga ccatatctat tttattcaca    6360
gctatatagc ctccaaccta gctcagtacc taacatatac agtgtctcac tcatttcctg    6420
tagaataaat aagcgaaagg tataattaag atcagagtaa cacaaaaggt cagcaagagt    6480
tccagagtag taatgagtac aatgtttctg tatatgagaa gcattttaga ttcactaaat    6540
gaggctgcag cggtaggctg aggtaagatc atggggaatc ttgaatgcca ggctaccaag    6600
tttagctttt ctcttaaggg ggtaaggaac tactggggct ttctgaggag gaagttcatg    6660
actgcagctg catgatggct ctgtggagaa tgatttggag agggaagtga gacatacagc    6720
agactgtatc acaagcaaag agtatcacaa gcgttggact gacattagat ggagtggata    6780
atggaactga aaaaaaactt cccaggggct cacgcctgta atcccggcac tttgggaggc    6840
cgaggtgggt ggaccacctc aggtcaggag ttcaagacca gcctggccaa catggcaaaa    6900
ccccgtctct actaaaaata caaaaaatta gctgtggcgg gtgcctgtaa tctcagctac    6960
ttgagaggct gaggcagtag aattgcttga acccaggaga ctgaggttgc agtgagccga    7020
gatcacgcca ctgtgctcca gcctgggtga cagagcgaga ctgtgtctta aaaaaaaaga    7080
aaaagaaaaa ccacttccaa cgaactgtgg tccagccatt caattaacta ctacttggta    7140
ataaaaaaag agtaactatt gatacacaca acatggttga ctctcaaatg tattatggta    7200
agaagccaca cttaaaagcc tgcatactaa agaattccat ttacatgaca atctgaaaaa    7260
ggcaaaacta cagggggaa aaatcagtag ttgtctgggg tgggaaggag aggactgatt    7320
acaaaagggc ttgagggaac tttttggggt gacggaaatg ttctgtattt tggttgcagt    7380
agtggttaca caacttgact ttttttttt aagacacggg atcttgctat attgtccagg    7440
ctgaagtgca gtggctattc acaggagtga tcacagtgta ctacggcctc gaacttctgg    7500
gctcaagtga tcctcctgcc tcagtgtcct gagcggatgg tactacaggc gcatgccacc    7560
atacccagca agttttttgca acgctttttt ttttgagacg gagtcttact ctgttgccca    7620
gtctggtgtg cagtggcacg atctcgactc actgcaagct ctgctttctg ggttcacgcc    7680
attctcctgc ctcagcctcc tgagtagctg ggactacagg tgcccaccac cacgcccggc    7740
taatttttttg catttttagt agagaagagg tttcaccgtg ttagccagga tggtctcgat    7800
ctcctgacgt cgtgatccgc ccgcctctgc ctcccaaagt gctgggatta caagcgtgag    7860
ccaccacgcc tggcctttgt caacagttat agaaagtaaa cctaaaaagg gtgactggct    7920
ccgtgacgcc tgtcctttca tgaataaaac agatgtagtc tcatgtaata cctcaataaa    7980
cttgaacttt taaaaatcaa gaggcatgtg ccccactaga aaaaaaaaat acagattttt    8040
agcagagaca tgaggtcaca aaagtttgcc aggatgggga acccaggagg aagaacaaat    8100
ttagaataga atatgagttt tgaactagag gtctaatttc aaggtctctt caagatatcc    8160
aggcaaacct tgaaagagag ctgagaagcc agattaggag tcatcagaat gaagaaagtt    8220
atcgaagcca ggagactaga tcggtatcac cagggaaggt gtgacgaaga gggagatggt    8280
catccaaagt cacaactccc aggaatgccc acacgtatga aaaaggccca catgtatgaa    8340
aaaggcccac atgtatgaaa aagggaggac ttccaggaag ggagggatga gcagtatcac    8400
agctaacata cactaaggct gacacagttc agttctgacc aggaagggcc tgaatggaag    8460
caacacgaga gatcctccaa tggggtggaa gcagggctgg aggtaccaag aatgggataa    8520
ggaagtgtgg ccgcctgcct taagcaactg tagggtcagg aaggcagaag aggacaaagg    8580
gcgtatgtcg tgaagttcca ctgtggatag gcaggtggac ttgcttcatg cctcagaggc    8640
taagaggccg actacgtacc ctcgaaatgc tccaaagagc ctaggagacc ccacttccgg    8700
gttcctacag ggctcaggaa aagcccctac ctgcttcgaa ggctgaccgt gaagccacaa    8760
ggcccacttc ataccaggga gtacccccac tcgccccttc ctcacctcgg gccccgccc    8820
cgtctctttt tcccaccctc atcgtgtccc cacaacccccc ggacatccct cggccccgcg    8880
ccccgcggc aaagccacat ctcccaccga cccactgccc tgaggccgaa cagccggggg    8940
tccctggccg ggggcccggc tctctcacca tcgcgggcgc tggctgggcc ggaaagcgga    9000
agtacggaag tggccagccc cgcgatgcct gccctttcgc gagaagcgca gctacggtct    9060
ccgcccggac ttccggacgg taccatctat gctccgagcg gggtagagag ccccttacgaa    9120
cgcttgggcc ttccggaagt tttccaccta gggctgtctc ggtattttta aattcttgca    9180
ctcgagtcac tatttaagct cctccaggaa tgggtgcagc ttcccttgt gccttcggcc    9240
ttcttgtcac cttgtgccaca gcctccccca ggtatgcaat ggtacagccc agcttcagat    9300
tgggcaccaa attaggacaa gccgaagcgg acgagccctt cgtttcttcc ggttctgtac    9360
ccccatcctt tctctcgccc ctcctacccg cagctcctgg cgctcggcgg ggctaactgc    9420
agcgcggaga tctcggccgc caagctccgc ctcccgcccc gggctgtgcc ccggggctcg    9480
cctgaggccg accacccgca ccccacctct agcggctttg ctcgaggccc accttcttcc    9540
caccccggc aaactccagt aggctcgccc tcgctgactc cccgcccccg cgtcaactgc    9600
aaggggcccg cccatagcca gttccggggc ggttgctcac atcgaccgga actccccgcc    9660
ccctcccgcg ccccтgggg ccgtaggagg ccgcagcgag gaggtagagg gggcgggggt    9720
cgcactaggg tgtccctaga gaacgaggac tctgaaggcg ggacatttgg gcgacccccg    9780
ggcggggcca gccattaaac agtcccactt ctgtgccaga cactgaactg ggctcttgac    9840
gggcatcatc tcttaatcct cagaacatcc cagggaggta ggtactattg ttatccccat    9900
```

2757

```
ttttcagatt cagactttta atggggaaac agaccgagac ttcttttgtc cccatttta c     9960
agatggaaaa actgagactg aaaaaggtca aataacatgt tcaggggcat ataagtagag   10020
aatggtaaag cctgggcttg aacccaggtc tgtctggctt accagcccac gttctaaacc   10080
actgttagtg actagagaag ggagaaaggt ggaatagggt aagaaaagag gccaagagtc   10140
ccagagaaca tggtaagaat ggggtgcttg gaactcaaag tcttagcaga acccaagaga   10200
aatagaaggg aaggaaagag catcagaaag gcgaggcaag gcatagcagt atagcatggt   10260
gatcagggtg cagactcaag actagcgggg ttcaaattgc atcttggaag cataggcaca   10320
tacccaccct tacagagtct cagtttcttt ctctgtaaaa acgagatcac aatggtcctt   10380
gttcatggtg ctgagtgaga aattcagtga gataaactga taaagtgctc tgcacctagc   10440
ttggtaccca gttaagtgcc ctgtgagtag gaactgtgcc atcaattttg tcagtaaggg   10500
actgaagctg ggcttccttg aggctgtccc tggaggtaag aagcccttgg gctttctca   10560
gaccactttg tctcccatca atggccctgt cctctccagc tccacaggat ccccatatcc   10620
tgggccatga gtgagttgaa agactgcccc ttgcagttcc acgacttcaa gtctgtggat   10680
cacctgaagg tctgtccccg ctacacggca gtgctggcac gctctgagga tgatggcatc   10740
ggcatcgagg agctggacac cctgcagctg gagctggaga ccctgctgtc ttctgccagc   10800
cggcgcctgc gtgtgcttga ggccgaaacc caggtgataa ccccagagag gggccagcac   10860
cagagatgga ctgcaacaag ttatgggatg ggtcattgag ttagccccat atgctgagac   10920
ttggggtaca ggggtttgtg gggagaggga gagagacgca aactgggttt gcatgacaca   10980
aaaaatacac aagaatatgc atgatcctct taaattgcaa gatttctaat tcagtaagct   11040
tttattggca ccccactcat cccccattgt gttctgggtc ctatgctagt cattagagaa   11100
aggtaattag dacagttatg gctgtcaggg agcttggcaa ctaggaaagt gagaaagtca   11160
agtacatacc aggtgatgtg atgttgtggt tagcagtcct agggaactgg aatggggaaa   11220
cctggatttg aatcctggca taagcgcttg ctagcattgc tgtttcctag ctatgtgact   11280
ttgagaaagt tgcctcatat ctctgagtgt cagtttccct atctgcaaag tggggtgaat   11340
aataggacct accttagtgc ttttgtgagg attaaaagag aattttttgc aaaaactcag   11400
cccaatgcca gacactaagt aagtacttca gatgttattt atttgctact ctgatgactt   11460
tattcactgc ataaagatgc cttgagcctt gtgtgccagg cgctatgctg tattctgcaa   11520
aatagagatg gttaaggtgg gctttctggt cctcagtagc ttatggtcta gttgaagaga   11580
caaggtgtga tggtcattcc agtgtgacca aacaacacga ttgggtgcac gttggagctg   11640
tgaagtgcca gagacttgtg gaggaaggag gtgccaactg gacctaaaag gatgaatgga   11700
attaacttgt ccctgggaat ccatggaccc tccttgagga aggctatgac tcaagttgta   11760
ttttagcatc taagaacctg ggtaactgat tgagagaagg catctcagta gtggtgacat   11820
cgaagtgaag gtttgctgag aggactcttc tgttaaacag tatgtgactg gcatgggtga   11880
tacagaagtg aatcagtata gatgaacaag tgaatgagat tatgagaagt atatgaataa   11940
agttctagga ggccaggcac agaaaatgag ctgaattttg aaggatgagt aagagtttac   12000
taggtaaaaa gaggatgggg aaagacccag gagcctctgt agattctaga tcctaattta   12060
ttcactagag gaaagagata ttctgtgttt tcccttctcc ccctcagtga cactttctgt   12120
aaatttcaga tcctcaccga ctggcaggat aagaaaggtg acagacgatt cctgaagctg   12180
ggtcgagacc atgaacttgg agctccccc aaacatggga agcccaagaa gcagaaactg   12240
gaagggaagg caggacatgg gccgggccct ggcccaggac ggcccaaatc caaaaacctt   12300
cagcccaaga tccaggaata tgaattcact gatgacccta tcgacgtgcc acggatcccc   12360
aaaaatgatg cccccaacag gttctgggct agagaacata gaaggggggcc tcaaggttct   12420
ggtggtggag gcactggtgg ggcaggggcg cccactcagg atctgcttct ccctgcaggt   12480
tctgggcttc agtggagccc tactgtgctg acatcaccag cgaggaggtc cgcacacttg   12540
aggagttact gaagccccca gaagatgagg ctgagcatta caaggtagaa actctgggcc   12600
ttgatagaca tgatgcggaa caagagagtt cagaggtgcc tgagaagtaa agctaccaaa   12660
gccatgcatc atcttccttc cccaaccctg cccagtctgc tgtctgctcc atcagtgcct   12720
ccagacacct aggcccaaac tcagctttct ccgtgcactg cctcccctct accccagcca   12780
aatgtcaaca cgccctcaag catctactta agtgaagtct gcccatgttc ctttatcccc   12840
atcccctctg ctttggtcca agccttcatc aacttctatc caaacagcct cttaactctc   12900
ttcctgtttc gaggcctctg gaggaacctt tcttctttct ttaagatata aaacttgggc   12960
tgggagcagt ggcttatgcc tgcaatccta gcactttggg aggccgggc gggcagattg   13020
cttgagctca ggaatttgag accagcctgg gcaacatggt gaaaccccat ctctaccaaa   13080
atacaaaaaa ttagccaggc atggcggtgt gcgcctgtag tcccagctac tcgggaggct   13140
gagtcaggag gatctcttgg acccgggagg tggaagttgc agtgagccga gatcacgcca   13200
ctgcactcca gcctgggcaa cagagcaaga ctccgtctcc aaaaaaaaaa aaaagatata   13260
aaagtcacct cacgcctgta atcccaacac tttgggaggc tgtggcaggc agatcatctg   13320
aggtcaggag ttcaagacca gcctgaccaa catggtgaaa cgccgtctct actaaaaata   13380
caaaaattag cctggcacgg tggcatgcac ctgtaatcct ggctactcgg gaggctgagc   13440
caggaaaatc acctgaactg gggaggcatc ggttgcaatg agccaagatc gtgccactgt   13500
attccagcct gggtgacaga aggagattcc atccattaaa aaaaaaaag ccgggtgcgg   13560
```

```
tggctcaagc ctgtaatccc agccctttgg gaggccgagg cgggcagatc acaaggtcag   13620
gagattgaga ccatcctggc taacacggtg aaaccccgtc tctactaaaa atagaaaaaa   13680
ttagccgggc gtggtggcgg gcgcctgtag tcccagctgc tcgggaggct aaggcaggag   13740
aatggcgtga acccgggagg cggagcttgc agtgagctga gattgtgcca ctgcactcca   13800
gcctgggtga cagagcaaga ctctgtctca aaaaaaaag aagatataaa actatgtttt   13860
aatgatgaaa ataaataaaa catgctccat taaagaaaat ttagaaaata cagaaaaatg   13920
ttgagggaga atcctcccat aggtgagctg tcatgatcag atgtgctcat gacatggcgc   13980
tgcatccagg cctttcttcc tcccgttatc tacaggatca agtccacgca tcccagtcct   14040
tgctggcaca gctccagtgc ccctctccat tttcctcggc catatccctc ttcattgccg   14100
tgttgaccag tcccaccaag tatctcgccc tcattccagg acaccacagc ctcctcgctg   14160
gtctctgggc ctctggcaag ctcttctctc cctcttgtct ccttgacaga cttgactcac   14220
ccttcaaggc cctgatctca tgttacctcc accaaagcac tctttcagat tccccagcag   14280
aaagttagtc agtctctcct ttgtgctgcc acaacacttt gatctctctc tttcacttca   14340
cttatctgat ttcttaaaaa tttatctgaa aaagagttca tacagacagc agtaaattca   14400
agcaatacaa aaggtaattc cctgtcaccc gtgacctgaa ggctcctaat tctctcgaga   14460
ggcaattgct gtgacctgag acaatctgtg tacgtattct gcaccttcta tcttgggaat   14520
tatttcagat tggcttctgt gtgtgtgtct tagttctttt tggacctgtc tcccttacta   14580
gagtgtgaag tacaggtttt atcttcgttg tactttctta cctacacctg acactgggct   14640
tggccttgga ctagggactt gagagagata taagataggt aagtgaatga atgaatgaag   14700
catggctggc cagtgcttac ccactcaggg ttgggtgcca tctttccac agatcccacc    14760
cctggggaag cactactccc agcgctgggc ccaggaggac ctgctggagg agcagaagga   14820
tggggcccgg gcagcggctg tggctgacaa gaagaaaggc ctcatgggc cactgaccga    14880
actggacact aaaggtaggc ctctcacctc cctgccaacc ccaggtcagg acttgaattc   14940
cagaacttca gcccacctcc cctcctttcc tgtgcccgct tagatgtgga tgccctgctg   15000
aagaagtctg aggcccagca tgaacagccg gaagatggat gcccctttgg tgccctgacg   15060
cagcgcctcc tgcaggccct ggtggaggtg agcagcctaa cccaaaagag gaaccatatt   15120
tactttgtgt tttaatgtgt tatgcttatt ttttatcgga atttatcata catttattag   15180
gttggtgcaa aaataggttg gtgcaaaagt aaaaacctgg actaatatat agcaaaagat   15240
tgggaataat atataacttg tgcacctaat agaaaagtgc acagatcata aatgtacagt   15300
tttcacaaat gagcttgtat taccagcctg gagattacaa aatgaaacat tactatatcc   15360
tagaagcccc tctcatgccc ctgttttct ccaactttcc ccaaaggtag ccttactcca    15420
caattacttt tgctaagcat ctgttggagg ggctttatac acatcctccc actggaggcc   15480
aggacagtgg ttaacgctgt gttacagata agaagattga ggctcagaaa agggaactgt   15540
tcacttgagg tctcacacac caggattcaa accctagctt caggggccct gtctttatac   15600
ctgctggttg accttagaca caccctcaca ctctttcacc tcattgagac tcagttttct   15660
attctggctc aaacacaaga gtttatctca tggaacagtc tgggtacatg ttgcaggtta   15720
tctaaggtag gggaaggggc aggtctctat ctcatatcat cagacaggga ccccagctga   15780
cggtggcctt gcagtctgca caaggtcact ctgggcgtaa ttgtcactcc agtcccacag   15840
aataagagca aggaggccgg gcgcggtggc tcacgcctgt aatcccagca ctttgggagg   15900
ctgaggcggg cggatcacaa ggtcaggaga tcgagaccat cctggctaac atgatgaaac   15960
cccgtctcta ctaaaaatac aaaaaatta gccgggcata gtggcaggcg cctgtagtcc   16020
caactacttg ggaggctgag gcaggagaat ggcatgaacc caggaggcgg agcttgcagt   16080
aagccgaaat tgtgccactg cactccacag cctgggtgac aaagtgagac tccatctcaa   16140
aaaaaaaaaa caaaacaaaa caaggaggag tgtgtgaagg aaactttttg gcccatgcct   16200
agctatggct cttatctctt ctgatcactt tcccctggag agaacttgtc acatgaccat   16260
acccgcctgc aagagagcct gggaagtaca actggacagg cattgcctag ctgccgtgga   16320
ggaaagaaga gtatggcatt cggacagcta gcatctccgc cacagcaggc ctagcacact   16380
gcctggtgcg ttgcagacgc ttcacaaacc ttagctgttc attaccatca ttgagtgtta   16440
atcatttctc ttctgtgttc ctttttcttc acatcagtac gaaaataaaa gggatttcta   16500
gaatgatcaa agcaatttgg gattggtatg ggaaggcttc ccacggtagg tgggatggga   16560
aagataaaag gatatttctg gtgtttgaag actgtcagtg taggtcagaa aggagcagga   16620
aagtggaaca gctattttc cttccactca tttttgtggt cttctaggaa aatattattt    16680
cccctatgga ggattctcct attcctgaca tgtctgggaa agaatcaggg gctgacgggg   16740
caagcacctc ccctcgcaat cagaacaagc ccttcaggtg agtggtgtcc tatccacaac   16800
ccacagtctg gcccccgctt ctgttggctt ctctccatct caacctgggg aagtcctcat   16860
cagtaagagg ctgggggcag ttaggtgaag cctaatagca gtctcaagtg tgagtgatga   16920
cccagcgtgt ctgcatgcac agactgagtg cagggttgtt cagcacagaa ctgttcatac   16980
cataaataac ccaaatgtcc tgctgaaggg gaatggttgg ctaaattggc ataactccat   17040
atgatgaaat aacttggggc tattaatcat atagctgcaa gtatagagaa atatagttaa   17100
atgacatgaa aagatgtaaa ttatagagtg acaagtggag aaaatattag ttgtagccca   17160
gtatggatgg tataatacta tttttactta aaatatattt ctttttttct ttttctttt    17220
```

2759

```
tttttttttga gatggagtct cgctcttgtc gtttaggttg gagcgcaatg gcgcaatctt  17280
ggctcactgc aacctccgcc tcccaggttc aagcgattct cctgcctcag ccaccaagta  17340
gctgtgatta caggcgcctg ccaccatgta tggctcattt ttgtattttt agtagagacg  17400
gggtttcacc atcttggccg ggctggtctt gaactcctga cctcaggtga tcctcccacc  17460
tcggccttcc aaagtgctgg gattacaggt gtgagccacc atgcctggct tacttacaat  17520
atatttaaat atgtgcacat aagggaaaaa acctggacta atatgtagca aaagattagg  17580
aataatatat aacaaaatct ggaatatata taataatata taacaaaata atagtaattc  17640
tctctgggtt gttggcatta tgggtttttc catatttttt gaatagtaga tacatacgtt  17700
gcttgtttta aaaaccagac cagatgtgtc tgtccctccc tttgtatctg gatagataca  17760
gaggggggtgc ccaaagggaa aggcaggttt tcactgacct tgggaagccc tgggaacctc  17820
caaggtgggc ccttctccaa gctggctctt gagtctgacg ggcctgcctc ccgctgcagt  17880
gtgccgcata ctaagtccct ggagagccgc atcaaggagg agctaattgc ccagggcctt  17940
ttggagtctg aggaccgccc cgcagaggac tccgaggatg aggtccttgc tgagcttcgc  18000
aaacggcagg ctgagctgaa ggcacttagt gcccacaacc gcaccaagaa gcacgacctg  18060
ctgaggtgag cgttagcagg atgcacagtc ccggggggtgg ccttggaggc tgtggccacg  18120
gctagtcacc tttcaggggt tttacaacag gctttccaat cctggctggc ctctaaatca  18180
cctggagagc ctcgaaaaaa acagcagtgg ccagtccacc gggtatgtcc caaacaaatt  18240
ctgattccac agagtgggggc tcaggcatct gtgactgacc gattgatttg atttgttttt  18300
gttttgtttt tttttgagag ggagtctcgc actgtcaccc aggctggagt gcagtggcat  18360
gatctcggct cactgcaagc tccgcctccc aggttcatgc cattctcctg cctcagcctc  18420
ctgagtagct gatactacag gcacccacca ccacgcccag ctaattttt tgtatttta  18480
gtagagacgg ggtttcaccg tgttagccag gatggtctcg atctcctgac ctcgtgatcc  18540
acccgcctcg gcctcccaaa gtgccgggat tacaggcgtg agccactgcg cctggcctag  18600
tttggttttt taattatggt aaaggcataa tataaaatgt atctccatgg gaggctgagg  18660
caggagaatc agttgaacct gggaggcgga ggttgcagtg agctgagact gcaccattgc  18720
attccagcct gggcaacaag agtgaaactg catctcaaaa aaaaaaagaa aaaaattta  18780
cgcttcttaa ccattttaa gtgtacagtt tagtagtgtt acccatattc acattgttgt  18840
gtgatttatt ttttgtcttt tcatgcttct tttcttttta tccccaaagt tttgttatta  18900
aaaatttgat acacacagaa aatctgaaag aatcatacaa taaacatcag tatattctcc  18960
acctagacta attaactgtt aacattttgt tggagatctg tgattttat ttgctcatca  19020
caagaaattg accagtgttt taggacatgt tcttttggga atccatcaca gtgcctgcca  19080
ttcatttgat gtcaactccc atccatcttg ttctgcattg atcacgaggg tataggtgac  19140
atcttgagga agactgtgga atagctaccc tttaggtaaa gagataggga agcaacccga  19200
acaagtctct ttgcttctca cagacaagtg ctgtgtctta acttcataga gccctgacag  19260
gacagggcac attcattcat ttggcctttt ttttttttt ttgagacggt gtctcactct  19320
gttgcccagg ctggagtgca gtgccatgat ctcggctcac tgcaacctcc gcctcccggg  19380
ttcaggcagt tctcctgcct cagcctcctg agtagttggg attacaggca tgcactacca  19440
tgccaggcta atcatttggc cattcttact gtctcttaga tattgtgctg ggggccagca  19500
agagaggcag agcaagggac ttgcagatta ctagcagatg atcagtaaag ataagtgcca  19560
ttaaaaggag aggtagttgc tgacaagctg ccagggtatt taaggataag agtgactaat  19620
gtatgctgag ggcctactgt gtgtcagggg ctttatgtac actctctcaa gtgtcttgac  19680
aacaacccag gagggaggag ctattttcgt tgtttaccag atgaggaaat aaaggcccag  19740
tgaagcgaaa tgctctgctg aaggtcacac agtcaataaa cagcaagctg agacttgaac  19800
ctgtggttga atcaaagcct ctttctataa tagtttgttt tctctgaaag gtgagaagaa  19860
gaaaacacag atggaagagg cactgaggga agcagaggga gagagaggaa gagagagaaa  19920
agcaggcatg tgcagttaca gaagtagtgg ccctagctg ggcctggtgg ctcatgcctg  19980
taatcccagc actttgggag actgaggtgg gaggcttgtt tgagctcagg agttcgaaac  20040
tagcctgggc aatgtagtca gaccccttc tctactaaaa attttaaaa atcagctagg  20100
catggtggca catgcctata gtcctactca ggaggctgat gtgggaggat tgcttgatcc  20160
tgggaggtag aggctgcagt gagcttgatc aggccactgt actccagcct gggtgacaga  20220
gtgagacctg tctcaaaaaa aaaaaaaaa aaaaaaaag aagtaatggg caatgaagaa  20280
atggcttgca gctctcagga aaccagagca cagcccttac cctgctgcag agcagctgca  20340
aggccttaag cagcccctga cctgagcatc tccttcccct tctggaaaac tggcaggctg  20400
gactcaatca ctaagtgacc ttccagctcc accatcgatg aaatgtataa atcagaccct  20460
gttcagagag attgatctgg tgtctcaccc acctcctgtc agcctcaggc tgcctagacc  20520
ttagggggct ctggaatgca gatgccgacg taagcaggcc ttctgctggc accggaacac  20580
ctgaaacaac agtgtttaaa aacaagagtt tggccccagc ctgctccaga tctcccctc  20640
actaactgtg ggatcctggg atcatctttg agcctcattt tcctcacggg taacatatga  20700
ataatagtac atattttgca gggttgttag gattaactga aagacagaga gagagagtgg  20760
gtgtgcctgt gtgtgtgtgt ttgtgtgtgt gtatgtatat atatatatat tttagagaca  20820
gggtcttact ctgttgccga ggttggtctc aactcctggc ttcaagtgat cttcctgcct  20880
```

2760

```
ccatctccca aagcgctggg attacaggca tgagctactt tgcccagcct actgtgtata     20940
tttttaagac cttttttttt ttgaagacac agtcacgctc tgttgcccag actggagtgt     21000
agtggcatga tcatagttca ctgtaacctt gaactcctgg cctcaagcaa tcctcagctc     21060
ccttggagtt gggactacag gtgtgcacta ccacacccag ctaatttttt aaattttttg     21120
tagagacagt ctcactatgt tgctcagact ggtctcgaac tcctgggctc aagtgatcct     21180
tctgccttgg gctcccaaag tgctgggact gcagatgtga accccatgt gcagccaaga     21240
ctttattctt ctagagcagt tttaagttca caacaaaatt gagagaaagg tacagagaat     21300
tcccgtatct ccctgtcccc acatgtgcac agcctccccc gtgatcaaca tgagttaata     21360
tttttcagga gcttaagata gtgccatgta agtgtaggtc agtaactgct ttttggtcac     21420
gactgtatga cacaatccac aggcatgcca gcctgggctg gtgggtaggc tcggtcttga     21480
agagggaggg gttgttctct ggaggtgggc tgaccctggc acctggctgg ctggtcccca     21540
caggctggca aaggaggagg tgagccggca ggagctgagg cagcgggtgc gcatggctga     21600
caacgaggtc atggacgcct ttcgcaagat catggctgcc cggcagaaga agcggactcc     21660
caccaagaaa gaaaaggacc aggcctggaa gactctgaag gagcgtgaga gcatcctgaa     21720
gctgctggat gggtagccct caccccgcc tcaggctgat tatctggcct aggggagggg     21780
aagggaggcc cacttccttc tttgggcaca ggaaacattg gcctgtggct gtccctcaaa     21840
tggcggcagt ctctagaggg ccgtggccct tcccctgagg tcttttggcc tagctctgta     21900
caaccaggac acaggaagcc ctgctgggct agcctgaggc ctagtctctg cttggtcccc     21960
gagatggggt tggaggggac ttcgtttctg ggtcttcctc ttcccctctt taccatcccc     22020
cactccctaa tcccctaccc ctgtctcccc ttcaaggact tctcccttgt ggttttgtaa     22080
agtgcaaact taagaataaa gtgactgctg tggttttca aaaaaagca              22129
```

<210> 5827
<211> 690
<212> DNA
<213> Homo sapiens

<400> 5827
```
cagtggggag gaaggaacca gtgtgggtgg taaggtttgt gggggggtatg cttggtggct      60
ctcagcccat ggccactaac ccatggcatt cagtcaggga gaactttctg agtacctctt     120
tctgaggata cttgtggctg cacgtaacaa tgcccccca gctcaaagtg gattcacagt     180
aaggaaatgt gttggctgca ggatgggcag tcctgggaca gagtggcctt cacggttagc     240
caatctagca attcttcagg gtcatcaagg gtccaggttt cttttttttt taatttaagt     300
tctagggtac atgtgtacaa cgtgcaggtt tgttacatat gtatacatgt gccatgttgg     360
tgtgctgcac ccattaactc gtcatttaca ttaggtatat ctcctaatgc tttccctccc     420
ccctccccca agggtccagg tttcttaggg gtcaccacac tgccctccac agtgtcgacc     480
tctgcctaag gtgagtcctt ctctggctgt agtgtggcag tggagcagtt ggggccagat     540
gcttcctcat ttacatccag cacaggaggg agccggagcc agcgggcttc catggcccat     600
ctacagaagc aagaagcctt ttcccagata ccatcatgtt tcagtggccc aaactcagtc     660
tcacatgccc attcctcagt cactgtggca                                       690
```

<210> 5828
<211> 627
<212> DNA
<213> Homo sapiens

<400> 5828
```
acagagcaag actccgtctc caaaaaaaaa aaaaagatat aaaagtcacc tcacgcctgt      60
aatcccaaca ctttgggagg ctgtggcagg cagatcatct gaggtcagga gttcaagacc     120
agcctgacca acatggtgaa acgccgtctc tactaaaaat acaaaaatta gcctggcacg     180
gtggcatgca cctgtaatcc tggctactcg ggaggctgag ccaggaaaat cacctgaact     240
ggggaggcat cggttgcaat gagccaagat cgtgccactg tattccagcc tgggtgacag     300
aaggagattc catccattaa aaaaaaaaaa gccgggtgca gtggctcaag cctgtaatcc     360
cagccctttg ggaggccgag gcgggcagat cacaaggtca ggagattgag accatcctgg     420
ctaacacggt gaaaccccgt ctctactaaa aatagaaaaa attagccggg cgtggtggcg     480
ggcgcctgta gtcccagctg ctcgggaggc tacggcagga gaatggcgtg aacccgggag     540
gcggagcttg cagtgagctg agattgcgcc actgcactcc agcctgggtg acagagcaag     600
actctgtctc aaaaaaaaaa gaagata                                          627
```

2761

<210> 5829
<211> 423
<212> DNA
<213> Homo sapiens

<400> 5829

```
ggctggagtg cactgtcgca atgttggctc attgcaacct ctgcttccca ggctcaagag      60
atcctcctgc ctcagcctcc agagaagtgg gactacaggc atgtgccacc atgcctgact     120
attttttgcat attttttttgg tagagatgga gtcttgccat gttgcccagg ctggtcttga    180
actcctgtac tcaagcgatc tacccacttc agcctcctaa agtgctcgga ttacagggggt     240
gaaccactgc accaggcctc cagattaaat tttaaagggg aaaaagatat ttatgaaatg      300
gaaactagat aagagaaaat cattcaaaat atgaagtatt tggattaggg ggtcagagtg      360
tctaggctgg taggtaaaaa aaaaatccct gatcattaca ttagaaaagt atggagatgg      420
gaa                                                                    423
```


<210> 5830
<211> 690
<212> DNA
<213> Homo sapiens

<400> 5830

```
cagtggggag gaaggaacca gtgtgggtgg taaggtttgt gggggggtatg cttggtggct      60
ctcagcccat ggccactaac ccatggcatt cagtcaggga gaactttctg agtacctctt     120
tctgaggata cttgtggctg cacgtaacaa tgcccccccca gctcaaagtg gattcacagt     180
aaggaaatgt gttggctgca ggatgggcag tcctgggaca gagtggcctt cacggttagc     240
caatctagca attcttcagg gtcatcaagg gtccaggttt cttttttttt taatttaagt     300
tctagggtac atgtgtacaa cgtgcaggtt tgttacatat gtatacatgt gccatgttgg     360
tgtgctgcac ccattaactc gtcatttaca ttaggtatat ctcctaatgc tttccctccc     420
ccctccccca agggtccagg tttcttaggg gtcaccacac tgccctccac agtgtcgacc     480
tctgcctaag gtgagtcctt ctctggctgt agtgtggcag tggagcagtt ggggccagat     540
gcttcctcat ttacatccag cacaggaggg agccggagcc agcgggcttc catggcccat     600
ctacagaagc aagaagcctt ttcccagata ccatcatgtt tcagtggccc aaactcagtc     660
tcacatgccc attcctcagt cactgtggca                                       690
```


<210> 5831
<211> 13646
<212> DNA
<213> Homo sapiens

<400> 5831

```
gaggagagcg tctgcctgaa tctcatcctg cagaaggtat ggggtgggat gggtgggggct      60
gcggattggc cctgtgggat ggctgacccc tccctgcacg ctgaccgtg ctctcttcca      120
gctggactac atggtgacct gtgcggtgtg cacacgtgct gacggcgggg acattcacat      180
ccataagaag aaatctcagg tgagccctgg cacgagagcc cccagcctcc taactgccag      240
ttcaggctgg gcgtggcaga gagagacaag tcctcctgct tgcttctctg ccctggaggt      300
gaggggtctg actccagaaa tctgctcagc tcctgggatc ccgtatccca ttcgaggagc      360
acagaaccag cttatccccc acatctcctg gtaggtctct ggctttggac tggctctggg     420
ccgggtggcc tccctatact ggcttggact ggctctgggc ctgtgtgccg ggtggggcct     480
cacttgtcct ccaaatctgc tttcttccag caagtgttcg cgtcccccag taaacacccc     540
atggacagca aggggggagga gtccaagatc agctacccca acatcttctt catgattgac     600
agcttcgagg aggtgagctc tgcacagggc ctctctcctt agcttcccct tctcgtgaga     660
tgggtgttag gcgcttctcc ccgcggcctt agccttgcag aaaggcatgg gtggcttgga     720
gccgggaaga gtccggctga ggcagatgtg gctctctctc ttcccagtgt ttgcttgtgg     780
gcaggtgaat ttccccggcg cagcctccgt ttcctcctct gtaaaatcag tgtcatgatc     840
atctgtccta cttactgtca gggctgaaga ctaaaaggct cctgagtggg aggacgcctc     900
ataaactctt gcaagaagca ctgcccgggc gggaggagcc attattaatg ctagtaaatg     960
ataaagaagc gcctccacgc ctgcactgac ttggaatcct aggatgtcaa agagggatgg    1020
ggtttccgga gttatctggg ccaagccttt gttttaaggt ttgggaaacg ggcttgggca    1080
```

```
gaaggagact caccgagaaa cacagggcac tgggagggcg gggagggagc cggtcgcagc   1140
tcactccctg ctctgcccat ttgtgtctct cctctgttga ggccctggtc ggggtccttg   1200
tgcgcatcca aggtgctcag ggccctgagg acttaggagg aaggcgtggg cgtctgcagg   1260
aaaatcgcag gctcagggag gtcatgtccc ctccccaggc acacgtagct cctagagggc   1320
agagctgaga tttgcgtcta agtctttgtg gcctcggagc tcacagtctg tgcaccaggt   1380
cctgggagca atgactcggg aaggtggcag gatggggcct gtggcacctt agtctggtgt   1440
tgtcacccca ggtgggcagt caccctgcca ccacactgag cctttggcca cacaggagcc   1500
tcaaagatgt ggcaggcagg gctgggcacc cctaggcggt gtggaggggc ccagacggtg   1560
gctgacggtc ctggtgaacc gtgatgaggg tgtgcgtctt ctgccagtcc cagagtctcc   1620
gtaagcgtcc ctgtcctccc ctgctgctca gcccctgccc cagtgtgagg ctgttcttgt   1680
cctgtggggc tcggagggca tggggccaca ggagtgtgtg acagccggtt gtcccctgca   1740
aaatgggtt ttctgagcag ccctccctgc cagttgggcc aggctgtggt gtgggcggtg   1800
ggagctgatg gtcacgtccc tgtctctttg tgtcctggcc caggtgttca gcgacatgac   1860
cgtaggggaa ggagagatgg tctgtgtgga gctggtggct agtgacaaaa ccaacacgtt   1920
ccagggggtc atctttcagg gctccatccg ctacgaggcg ctcaagaagg tgtatgacaa   1980
ccgggtgagt gcggggcggc ctcacgggtg ttcttctggg cccggggacg gcggctccac   2040
agcccaccgt ggtccatacc atggggcccc ccagcctgct tgtgcatggt agcggccgcc   2100
aggggtacct gcagcccctc cgggctcctt ctaggcgctc cctggtcctc ttaacgtcat   2160
tcttcatggt cggcctcagc ccatgcgggc cacttgcctt catctgaaat gtgagcggga   2220
acttcctcct cagtctctag ttccctggga agtgatggct gatggtgtcg ctgtcacctc   2280
ctcactgtca cttgcttcct gcgactggcc ctgggagtgc tccgagtcgc ccccaactaa   2340
gcaagcagat gtgggcaggc ccctctcccc cagcgggcac catccgcagc cagccttgct   2400
gccagcctgg ggccctgtcc tcagcctggt ccgtggttca tggggcggtg ggaggggcac   2460
caggaggggc accaggcaga gatgtgggtc cattccagct gccccgcctg ccagctcaga   2520
cgctccctcc cgggcagccc ccgctccttg agggatggtc gccctggctg ttcatgtcct   2580
ggggaggggc cccatggagc catcgccacc tccctgactc aggctgcccc gcgccggccc   2640
ccaggtgagc gtggccgccc gcatggcaca gaagatgtcg tttggcttct acaagtacag   2700
caacatggag tttgtgcgca tgaagggccc ccagggcaag ggccacgccg agatggcggt   2760
cagccgagtg tctacaggtg acacatcccc ctgtgggact gaagaggact ccagcccagc   2820
ttcgcccatg cacgagcggg taagggctgc acagctgggg gcggggctc ccatccgtca   2880
agttcacttt ccaccgtctc ccccgtgctc acggccccct ggggacatag gtgttgtcat   2940
ccccaaccac cagtgcgcag gccgaggtgc cgagcgtgcg gaggcccgga ccacccagcc   3000
cttctctttg cctagcggtt tgtaggaggc actgccgcag gggaggcgtt cctgccttgc   3060
agacctggag ggctgtgcct ggccaaggtc acaccgcagg ctggtgctgg gccagagctc   3120
tttctgcctc cctgagatgc cacaaagcca ggctgagtcc acagagccag tgggcagaag   3180
agactggctg gggacccagg cccggccctg gcgcctgcct gggtggacct gctgggtgag   3240
cgtgggcacg tggccggcct tccccggtga gtcagatggg gatgatggtg actgagggtc   3300
agccagcgca tgcagaggcc taggccaccc agctctttgc cccgcggttt gtaggaggtt   3360
ctgctgcagg agaggcgttc ctgcctcgca cagccggaaa ccagacttgc cagcttgccc   3420
caggtcacaa ggtctcttgg gatagcactg ggcttggggc cctgctctgc ctaggccact   3480
ctccttcccc agggcgggag gctgaggtca gcagcagctt gttcccaga agcctttggt   3540
ggggcacagg caggagaagg tctccagccc actggctgct ttgctctacc tggttcttcc   3600
agagggactg cccagagctg tagttcttgg aagagtacag gtgtgctggg cagggggtg   3660
cccttggcac aggtccaggg gcagtcttgc ccagccattg tccaggagag acgccaccca   3720
cagccagaat cctgctctgc tgctctcata accttgggtg tgtctctttt cctctccaag   3780
cctcagtttt ctcatctaga aacagggcac gaggatacct gctccttcag tatttgggag   3840
gctttgagga atccggggct tggccctcag gaggattccc aggtggcagc tgcagtagtt   3900
gctgttgacc tacttggaaa gcagaggcgt gggaatgtaa acgatgcatt accgcaggca   3960
tgcctgagat gagggagtgt gcgtttgtta tactttagt tcgagaaaga tctgaatcat   4020
gcatatctcc gggtggtcag atgttggttt tctttctctt ctgtatatct ttttttgggg   4080
gggaggtatc ttctgcaatg aatgtgtttt gcaagccaaa gacagcaagt gctattttt   4140
gcaaagatgg gtgagaattc caggcagggg cctctcttgt ctttggaatg aggtggttta   4200
tatttctgag tttgtttccg agataaaggg cctggttctt ctccctggtc ctaaattatg   4260
ccctgggact ctgacaaaat gtgtgtgtga aagtccttac gaagatgtgg cccgagctct   4320
gggctggaca aacccgggtg ccacctccag ccacagcctg agggctgagt gactacaggt   4380
cactagacct gcctgagcct tggtttttcc atctgtccag cgggagtggc tgtgaggggt   4440
gtgaaagtcc ctggtgcctt agcagctggg cagccctggg attcaggagg agggatgtgc   4500
tagggtcaca cagggtcagc agcagggctg gccctgggg actgccgcct gtgcgcctgc   4560
tattacctgt ctccttctct ggcggggtcg tctggagcca gtgcgtgaca catgctgact   4620
ctgtgtattg tggttgctgc tgtttgtttc ttttatcttt taaaaacctt ccccggcttg   4680
tgggaacacc gtctggagcc cagcagctgc caggactttg gtggatgtcg gagccgtgac   4740
```

2763

```
gaggaggctg acggggctcc cgaagtctca gtcccagctc atcctgctcc tcagattatt   4800
gttggcatgg ggaggaggga ggagatgggc caagttccct ctggctggaa cgcccttccc   4860
cccccttcttc acctggcgaa ctcctactcg tccttcaaga cccagctcca gcggcatctc   4920
ctccaggaag ccttccctga tttcccaggc tgtggatccc ttttgcctct gtgcttcatg   4980
tatcctgtgc ttctcttttct ctgtctccac agccagcatg ctgtctatgg ttgtcactct   5040
ctgagtctgt caccccagca gactgtgagc tccttgaggg cagggacctg caatgtgcct   5100
gtctgtcctt agtgctgtgc ctgcctggcc ctgagtgggt gtgaatgttt ggtgaacaga   5160
accaaacgtg attagaagtg gggagaagac agaggcatag agctacttag cacagtattt   5220
cctgtgaagg gtgctgggaa tgagagggat ggggccacgt cagccctgag aagtaggatg   5280
aggagcgtgg ccctggggga cagaagacag ggctgctgcc gtcctgcttg gtgaccacag   5340
gcaagccagg gtctcggtcc ctgccttagt ttccccatgt gtcagatggg ctgacgctag   5400
cccctgtctc acggagctgg aggctcagag ggtctgtgtg tggggccagt gctcactcag   5460
cgtcagcagc tgttgttact ttgtgcttga acaccccta cccactgttt gaggcccaga   5520
ggaggggggt ctttctgcca tttgcggcag cagcctggcc cctcctcggg tagcactggt   5580
ggccaggtgt cctgctggcc cctgggctgg aacgcatctt ccagtctcta ggccccacct   5640
agcacgggcc ggctgggcct gggtcctcct gggccagcgg cctcttccct gggagctgtg   5700
tcaggttgtt tgagggtggg ataggagggg cgttgggacc cccgggagg gggctgttct   5760
gctactctgg tgactttggc tgcttgttcc caggtgacct ccttcagcac accccccacc   5820
ccagaacgga acaaccggcc tgccttcttc tccccatccc tcaagaggaa ggtgccccgg   5880
aaccggatcg ctgagatgaa gaagtcgcac tcggccaacg acagcgagga gttcttccgg   5940
gaggacgacg gtggaggtga ccccccactc cgtgccctag ggtccccgtg cccttcagtc   6000
tcttcttgat ccagaccagt cattcattca tttattcatt cattcatttg ttcattcagc   6060
agcacttaga gagtgggtgc catgtgccag gcagccctcc aggagctgag gggtagagct   6120
ggggacaggc agaaatggct gcctctgggg gtcccgtcct ggtgggctca ggcgtctcct   6180
tggcagagtg cttggagcgc agatgtgcag cagttggtca gtttcagggg atttcccacc   6240
tttctaaggc ttttcagcct gcttaaggaa gaaagcggat gggtgatctg atggctccgc   6300
acacacgggg tgtggcggga gagaggaggg cttccctccc ttgcgctgcc ttgggccagc   6360
tcgcccctcag ggtgaggcct ggccctcctg gctctgtgca gcctcccaga accacgtgct   6420
ctttggtgac acagtcgcca cctcgtgcag cctaccccg gggccttcct gtgcccctgt   6480
cccctggact ccggttgtct gtatctgggt gttaccatgc cccttagtcc tgcccaggca   6540
cagtctgcac tctctcctga gcacccgtgc ctgctccctg tcctcgctca gtgaccttcc   6600
agaatacagg agttgttccc agagccccca gggaggcctc tgaggggttt taagcaaggg   6660
agtgacacaa tcagattagc atatttaaaa tgccactcag cagtctctgt gggaaatggc   6720
tcctggggac aggcgtggcc gtcacagaca ggttgggaag ttctgccatg ctctgctggc   6780
atggaccacg tgccttcctc actgtcatcc tcaggaccca gcgggcgcct ggctccgcac   6840
tgtgtgcgtg tctgttgagt gtatggaagt gaaggattgg ccaggcacag tggctcaccc   6900
ctgtaattcc agcacttagc gagaccgagg cgggtggatc acctgaggtc aggagttcga   6960
gaccagcctg gccaacatgg tgaaaccctg tctctactaa aaatacaaaa aattagccgg   7020
gcatggtggt gggcgcctgt aatcccagct actcaggagg ctgaggcagg agaatctctt   7080
gaacctggga ggcagaggtt gcggtgagcc gagatcgtgc cactgcactc gagcctgggc   7140
aagagtgaga ttccatctca aaacaaacaa aaaaaaacga cgtgaaggat tcgctgacaa   7200
ctcccactga gcacctcccc cagcagggag cagggctgca gcattgatca gaagaggtgg   7260
cagtctttgt cctgaccact gggaccaaga agcaggggtg tcccacctgc tcaaggccct   7320
ggcctgggtc agggactcca gcactggcct cgacctgctc ttgtgtgaac ttgggcaagc   7380
cccttcccca cctgggcccg ttcccgaatc agtaagaagt actgatcact gccctagtct   7440
gcctctctgg ggcaggttcc cccagcctgg accgcaggac tgggtaatgg tgcaggtcgg   7500
ctcagccttg ctgctcccat gctctgcagg tggcggtgcc tagttccagg gacagggcct   7560
gcagaagcag agaattacac agtgtgtgtg ccagaacccc cggaggagac taagcttgtg   7620
acagagaaga gagagatgag gggggtggcc aaagtcttcc tggagttgga ggcctgggtc   7680
tgggccagag gaagcaggga ggggtgttac aggcgaggag gcagcagctc tggagcgtgt   7740
gggtgctggt gtggggggtgt tggtaaggag cgtcctggcc tcagcagagt ttggcctcag   7800
cctggactgg gagctggcct cctgctgctc ccgccgcgtc ccatgctgtg ggggccttga   7860
cctggccttc tttcctccag ccgatctgca caatgcaacc aacctgcggt ctcggtccct   7920
gtcgggcaca ggacggtccc tggtcgggtc ctggctgaag ctgaacagag cagatggaaa   7980
cttccttctc tatgcacact taacctacgt cacgttgccg ctgcatcgga ttttaacagg   8040
taatgctggc ggatgtgggg aagcagccgc accttctcac agccagctct gcctccaggg   8100
ccttggtact tgtgagccac ccggagtcat cccgccctgt cctgtcggtt ggttgggttt   8160
ctttgcaggg ctcttggcct ctttgtctca gactttgggt ggagccgtag ctttcccaga   8220
gctgaagtcc tcccttttgtt caccttctg gcgcacctgc tgtcccctct tgagtggcca   8280
cagatgccca ggtgtgtgtt actcacgggc gaggggaggc tctcaggcca cctcgctgac   8340
ccaggcctgc agcagctgtg acaggcagtg gctctggccc ccacaccagc ttgcacctga   8400
```

                                 2764

```
ggccctgcag ggtgtgccgt tgctgcgagc ccatttccca gtctgcaggg tgaggatggt    8460
ggagacacgt ctcctctgca gtctgtgagg cctggagagg agatgcatga gtggctgagg    8520
cgggcttcct tcagaagtgg cactgccgtg accatagcac tcaccgctgt tgagggttac    8580
tgtttcacct gcttccctcc tgccggccct agacatcctg gaagttcggc agaagcccat    8640
cctgatgacc tagccgcgtg cggagcctgc gcagagcccc ggccgggccc agccctcgga    8700
gtgctgccaa gtgcctacct gtccaccgcc accggggtct gcgatggcac gccagtgctg    8760
gagccgcagc caggcgaggc cactcgactc ccggggccgg ggccgactcc acgaacacca    8820
gcccaaactg aagtgcctct tccctcccct gctggcgctg ctccgccctg tgccccccgc    8880
ccatcgcccc ccacccatct ctggagagcc ctctgcaccc aaagaggact agagatgccg    8940
agcggccatg agagagagcg gaaggagcag ctgatgccca gagcggggcc agagcggcgg    9000
gtctatgttc acgtccccc agcagcaggc ggaaccaccc agccagggca ctcagtgcat    9060
tggactgtcc acatgttctt gaggaaagcc ggtggaagat tctggaatgc cgtgcggatg    9120
aacttcagca cccgagtcag tcccagctca tcctccccag tttaccactt tgttctaata    9180
ggagatggga acacgagaag tttgatggct ttgccctggg ctgggaatac ctcacccacg    9240
cccagttcca gaaaggcctc cagctgagca gacggccccg atcccgccag aacggccttt    9300
tgcttccagc caaagaacac cgccaacacg cacacctcca acctgggaca tcccacgctg    9360
ggcctcgcac ggaggaacct gcagaatttg gattctgagg gtagtcggga ggcctcggta    9420
gccaggcaga acaggatatc tgccaaaggg tgtctgatgt ggggtggggc tggcatcctc    9480
ccaggaaggt tctaggtggg accccgtctt ctgggggcgg gggtgtcttt tcatcttccc    9540
tggtttccta gaactcactt cctttgacgg cgtgtgttgg tcccatctct cagaccagct    9600
cactgaggca gaggagttgc tcagaggctc acatgggcac ccccattggt tcgtgtgagc    9660
agctgcccag ccccaggcct gccctcggcc tggtccagca tgaaggcgtt tccatctgca    9720
aggatgcacg gtaccctccc cgagagcagg cctgtcccct acccaactgg gaataaactg    9780
gaagctgggt ctctttgttg ctatgttttt ttgtttgaag ttcccaggaa tatttgaggg    9840
gttccggtga tgtgtttagg gatcttctct gtgggggaaa aggaagagga gggtcttgtt    9900
ctcccatctg tttattcttt gggctctggg aacaggggac tactttgggg ctttctccag    9960
acttttgtat gttgttatta aaagcgagct attgcatttc attctgcctc agtttgccca   10020
cctgtgaaat ggggctgata ccacctacct cactgaagtc ccagggttca agtgtgtggc   10080
tgggtcaggg cgtggtcacc cgtcattctg cataggtcgg gttggatgtt agactcctgg   10140
gatgccctcc tcccctcgc cctttgtaat aacctaatct gagaccgtgc ttggtggggg   10200
gatgtgaact ttctctctcc cccagcagtg tctgctcagg cctgacagct cagctctgca   10260
cgatttcatg ttcctaaacc catgtcttag ggcagcacag agccaggtca tgtcatgccc   10320
caaagtgtgg ggacagagcc tcagggagcc ccgagcatgg tccagcccca tttgagtgct   10380
ctccggggat gccaaatgct gcttccaagt ttgagtccat gtggctaaaa tacacccatt   10440
tcttcaggaa ctcttcccct ggttgttctg gggatcttgg gagaaacaca gccctgacag   10500
ctcgtccgtg ggaagatgag gcagtccagg ttgtgaggag cacagcggcc cgccctctgt   10560
tctcagaggt gaggggcggg agaaggttgt ctcctctggg gccagcattt ggccaagctc   10620
ggaggcttgg ccagcactgc tggatggctc agagcaagct gggctccccg tctgtaagat   10680
ggcaaaaatg ctgcccccct cacagggtga ccatgaggac cagtcacagt gatgtgtgaa   10740
agggctcgct ggtcacagaa acgtgtacaa atcatgctat tttagagatc agccctcaat   10800
ttgtaaggca tgtgaacagg gcacgcggtg ggctggtggt ttcatagccg acacacagcg   10860
cctaccatgt gcagctgcct gtccgacccc atcttacaga cgagaaaacc agcacacagg   10920
caccaaggaa ctgtccggaa ctaacagcag gggccggcga tgggagtcaa acccaggcac   10980
gcggcctggc ctgcatgctg agccacatgg tgctgtccgg acagatggac agacactcgg   11040
tggagtctgc ctttctcagg ccctaaatcc ctctccaaag ggtacttgcg atgccggatt   11100
taaaacttgc tcagagccac ttagccactt gagaaccaga cagtaaggtg ttactcccag   11160
gtttgttttt ccaaagtaac agatgacatg tggaataaag taatagagta acaagtggca   11220
gggccagaac cagggtcccc aaagtcctgg tgttggcaca tttgtacttc ttgtaagacc   11280
atctttaatt tttctgggaa cacacctgcc ttttgtgtaa tgcggggaag actaatgcat   11340
ggtgacacct agttttcctc aacaggacac ttgatcccaa aacccctta agaccttagg   11400
tttcctcagc ggaaaactgt actttaatcc caaacccct ttaagacata ttggggctgg   11460
gcgcagtggc tcacgcctgt aatcccagca ctttgggagg ctgagatggg tggatcacct   11520
gagatcagga gttcaagacc agcctgacta acatgctgaa accccatgtc tactaaagat   11580
agaaaaatta gctggacatg gtggcaggca cctgtaatcc cagctactcg gaaggctgag   11640
gaaggagaat cacttgaacc tagtaggcag aggttgcagt gagccgagat cacgccattg   11700
cattctagcc tgggcaacga gagcgaaact ctgtctcaaa aaaaaaaaa aaaaaaaaa   11760
aaaaaaaaa aaaaagata cattggtctt taaacccaaa cccccttaa ggcatgttgg   11820
tctcaagggg atttgggatt gaagcacagc tttctgttga ggaaacctag gtgtcacttt   11880
ttagaacatt aaaaagaaag ttgtagggtg ggcttttcca tttaaaggaa tgtgatgatc   11940
ctaggttctg atgagtgata ggtggtctcc gtttataccc tttcttcttt tggcacctgt   12000
aagttccggt agtggccatc ttacattctc atgtcctgct ggaagtgcct agttgcctgc   12060
```

2765

```
aaagccagct aaggcttatt atttcaaaag aagattattt aaaacatgag tgacaggtag  12120
tcagaagaga acaaaaggac gcaagatact ctatagccaa gtcagcttgg aggcaggatg  12180
ggttgctgag tgaagtcgcc gctcactttt ggattcttat ggactgtgag ttagtcttcc  12240
ctctacacgg agtcacagga agggtataaa tgcatgttcc tgaggtgccc tcccccaaag  12300
aatgtacctg cactcaaacc aggatctgtt tttgctgttt taatcataaa tagactagtt  12360
agtagaagac ttttgaagaa caaagtaaaa cttttttttt tcattaaaag atgtcccaga  12420
ggaaaggccc tgtgcagcca gtatattcta atgactgcct ggaccatgtc ctaatatggt  12480
ggtttttaagt tgttggccaa aatcctttaa agacatacga aacatctgcc aactttttag  12540
cgaacttaac aggtttcact gacgttttcc tcaatttttg aatttaggtg ggatttgctt  12600
tcatgtcctg tttcaaaaac caagtgtctc ttgacagccc actggttctt cctgtcctct  12660
tgctctagtc tgtatcagaa agcagaatga ctgtactttt gttttacaaa caaccacctg  12720
ataggacgga cactccacga gataaggaaa ggcacgtgcc cttgagcttg aatggaagca  12780
gcctctggag ggggcagcca ctgcccttcg agggagagca gctcttcagc agtggccaga  12840
gtgccacgtg actctgcaga tgacccctgg gagccgggtg atgggcacct gctggggctt  12900
ttgtttttttc ttttttcactg gctggcttga tcctcagtgg caaaaggacc cctgagcccc  12960
ttctccgagc cctggagcac tcctcgggac accgagtggc ctcagggctg ggttcagagc  13020
tcctcccgca ggggggagcct cagaagtgga ggcagctgct gatgggtgag tttacaactt  13080
cttatcctgc ctaaggcgag taggcgtttt tattccgttt ccagtccttg agctcagcag  13140
atcaaaataa cagtgaccct gcaaccccac agagcccgcg acacgctcgc tttcttcccc  13200
gccctgcccc tttagtcccc gctctggaag gccaggcagt ttaggtgtaa ataggtatct  13260
tttatggttt ccaaatgaat tatttgtgtg agagtaatta aatctgtaag aaaacctgtt  13320
gagattcttc actatgaatt atgacttcta caacatgtat tttagcaaaa acacgatgct  13380
ggcctccact ggatagctca gtatgctgat tgccagtgat agttctgtac gcgttaccaa  13440
cagcgtcttt attaaccctc ttccacatcc agtggaaatc attgctaggc ggtatttgtt  13500
ggttggctgt tagctttgct ttatgatttc atgtttcttt taaaggttgt tttgcatgtt  13560
gaatattaaa tttttttttt ctgtgtcttc ctctaatctt tttctgtaat gggaatttca  13620
gggtaaatac agatattata gcaaag                                       13646


<210> 5832
<211> 7770
<212> DNA
<213> Homo sapiens

<400> 5832
ccggaaccgg atcgctgaga tgaagaagtc gcactcggcc aacgacagcg aggagttctt    60
ccgggaggac gacggtggag gtgaccccccc actccgtgcc ctagggtccc cgtgcccttc   120
agtctcttct tgatccagac cagtcattca ttcatttatt cattcattca tttgttcatt   180
cagcagcact tagagagtgg gtgccatgtg ccaggcagcc ctccaggagc tgaggggtag   240
agctggggac aggcagaaat ggctgcctct gggggtcccg tcctggtggg ctcaggcgtc   300
tccttggcag agtgcttgga gcgcagatgt gcagcagttg gtcagtttca ggggatttcc   360
cacctttcta aggctttttca gcctgcttaa ggaagaaagc ggatgggtga tctgatggct   420
ccgcacacac ggggtgtggc gggagagagg agggcttccc tcccttgcgc tgccttgggc   480
cagctcgccc tcaggggtgag gcctggccct cctggctctg tgcagcctcc cagaaccacg   540
tgctctttgg tgacacagtc gccacctcgt gcagcctacc cccggggcct tcctgtgccc   600
ctgtcccctg gactccggtt gtctgtatct gggtgttacc atgcccctta gtcctgccca   660
ggcacagtct gcactctctc ctgagcaccc gtgcctgctc cctgtcctcg ctcagtgacc   720
ttccagaata caggagttgt tcccagagcc cccagggagg cctctgaggg gtttttaagca   780
agggagtgac acaatcagat tagcatattt aaaatgccac tcagcagtct ctgtgggaaa   840
tggctcctgg ggacaggcgt ggccgtcaca gacaggttgg gaagttctgc catgctctgc   900
tggcatggac cacgtgcctt cctcactgtc atcctcagga cccagcgggc gcctggctcc   960
gcactgtgtg cgtgtctgtt gagtgtatgg aagtgaagga ttggccaggc acagtggctc  1020
accccctgtaa ttccagcact tagcgagacc gaggcgggtg atcacctga ggtcaggagt  1080
tcgagaccag cctggccaac atggtgaaac cctgtctcta ctaaaaatac aaaaaattag  1140
ccgggcatgg tggtgggcgc ctgtaatccc agctactcag gaggctgagg caggagaatc  1200
tcttgaacct gggaggcaga ggttgcggtg agccgagatc gtgccactgc actcgagcct  1260
gggcaagagt gagattccat ctcaaaacaa acaaaaaaaa acgacgtgaa ggattcgctg  1320
acaactccca ctgagcacct cccccagcag ggagcagggc tgcagcattg atcagaagag  1380
gtggcagtct ttgtcctgac cactgggacc aagaacaggg gtgtcccacc tgctcaaggc  1440
cctggcctgg gtcagggact ccagcactgg cctcgacctg ctcttgtgtg aacttgggca  1500
agccccttcc ccacctgggc ccgttcccga atcagtaaga agtactgatc actgccctag  1560
```

2766

```
tctgcctctc tggggcaggt tcccccaggc ctagactgca ggactgggta atggtgcagg   1620
tcggctcagc cttgctgctc ccatgctctg caggtggcgg tgcctagttc cagggacagg   1680
gcctgcagaa gcagagaatt acacagtgtg tgtgccagaa cccccggagg agactaagct   1740
tgtgacagag aagagagaga tgaggggggt ggccaaagtc ttcctggagt tggaggcctg   1800
ggtctgggcc agaggaagca gggaggggtg ttacaggcga ggaggcagca gctctggagc   1860
gtgtgggtgc tggtgtgggg gtgttggtaa ggagcgtcct ggcctcagca gagtttggcc   1920
tcagcctgga ctgggagctg gcctcctgct gctcccgccg cgtcccatgc tgtggggggcc   1980
ttgacctggc cttctttcct ccagccgatc tgcacaatgc aaccaacctg cggtctcggt   2040
ccctgtcggg cacaggacgg tccctggtcg ggtcctggct gaagctgaac agagcagatg   2100
gaaacttcct tctctatgca cacttaacct acgtcacgtt gccgctgcat cggattttaa   2160
caggtaatgc tggcggatgt ggggaagcag ccgcaccttc tcacagccag ctctgcctcc   2220
agggccttgg tacttgtgag ccacccggag tcatcccgcc ctgtcctgtc ggttggttgg   2280
gtttctttgc agggctcttg gcctctttgt ctcagacttt gggtggagcc gtagctttcc   2340
cagagctgaa gtcctccctt tgttcacctt tctggcgcac ctgctgtccc ctcttgagtg   2400
gccacagatg cccaggtgtg tgttactcac gggcgagggg aggctctcag gccacctcgc   2460
tgacccaggc ctgcagcagc tgtgacaggc agtggctctg gcccccacac cagcttgcac   2520
ctgaggccct gcagggtgtg ccgttgctgc gagcccattt cccagtctgc agggtgagga   2580
tggtggagac acgtctcctc tgcagtctgt gaggcctgga gaggagatgc atgagtggct   2640
gaggcgggct tccttcagaa gtggcactgc cgtgaccata gcactcaccg ctgttgaggg   2700
ttactgtttc acctgcttcc ctcctgccgg ccctagacat cctggaagtt cggcagaagc   2760
ccatcctgat gacctagccg cgtgcggagc ctgcgcagag ccccggccgg gcccagccct   2820
cggagtgctg ccaagtgcct acctgtccac cgccaccggg gtctgcgatg gcacgccagt   2880
gctggagccg cagccaggcg aggccactcg actcccgggg cggggccga ctccacgaac   2940
accagcccaa actgaagtgc ctcttccctc ccctgctggc gctgctccgc cctgtgcccc   3000
ccgcccatcg ccccccaccc atctctggag agccctctgc acccaaagag gactagagat   3060
gccgagcggc catgagagag agcggaagga gcagctgatg cccagagcgg ggccagagcg   3120
gcgggtctat gttcacgtcc ccccagcagc aggcggaacc acccagccag ggcactcagt   3180
gcattggact gtccacatgt tcttgaggaa agccggtgga agattctgga atgccgtgcg   3240
gatgaacttc agcacccgag tcagtcccag ctcatcctcc ccagtttacc actttgttct   3300
aataggagat gggaacacga gaagtttgat ggctttgccc tgggctggga atacctcacc   3360
cacgcccagt tccagaaagg cctccagctg agcagacggc cccgatcccg ccagaacggc   3420
cttttgcttc cagccaaaga acaccgccaa cacgcacacc tccaacctgg gacatcccac   3480
gctgggcctc gcacggagga acctgcagaa tttggattct gagggtagtc gggaggcctc   3540
ggtagccagg cagaacagga tatctgccaa agggtgtctg atgtggggtg gggctggcat   3600
cctcccagga aggttctagg tgggacccccg tcttctgggg gcgggggtgt cttttcatct   3660
tccctggttt cctagaactc acttcctttg acggcgtgtg ttggtcccat ctctcagacc   3720
agctcactga ggcagaggag ttgctcagag gctcacatgg gcaccccat tggttcgtgt   3780
gagcagctgc ccagccccag gcctgccctc ggcctggtcc agcatgaagg cgtttccatc   3840
tgcaaggatg cacggtaccc tccccgagag caggcctgtc ccctacccaa ctgggaataa   3900
actggaagct gggtctcttt gttgctatgt tttttttgttt gaagttccca ggaatatttg   3960
aggggttccg gtgatgtgtt tagggatctt ctctgtgggg gaaaaggaag aggagggtct   4020
tgttctccca tctgtttatt ctttgggctc tgggaacagg ggactacttt ggggctttct   4080
ccagactttt gtatgttgtt attaaaagcg agctattgca tttcattctg cctcagtttg   4140
cccacctgtg aaatgggggct gataccacct acctcactga agtcccaggg ttcaagtgtg   4200
tggctgggtc agggcgtggt cacccgtcat tctgcatagg tcgggttgga tgttagactc   4260
ctgggatgcc ctcctccccc tcgccctttg taataaccta atctgagacc gtgcttggtg   4320
gggggatgtg aactttctct ctcccccagc agtgtctgct caggcctgac agctcagctc   4380
tgcacgattt catgttccta aacccatgtc ttagggcagc acagagccag gtcatgtcat   4440
gccccaaagt gtggggacag agcctcaggg agccccgagc atggtccagc cccatttgag   4500
tgctctccgg ggatgccaaa tgctgcttcc aagtttgagt ccatgtggct aaaatacacc   4560
catttcttca ggaactcttc ccctggttgt tctggggatc ttgggagaaa cacagccctg   4620
acagctcgtc cgtgggaaga tgaggcagtc caggttgtga ggagcacagc ggcccgccct   4680
ctgttctcag aggtgagggg cgggagaagg ttgtctcctc tggggccagc atttggccaa   4740
gctcggaggc ttggccagca ctgctggatg gctcagagca agctgggctc cccgtctgta   4800
agatggcaaa aatgctgccc ccctcacagg gtgaccatga ggaccagtca cagtgatgtg   4860
tgaaagggct cgctggtcac agaaacgtgt acaaatcatg ctatttttaga gatcagccct   4920
caatttgtaa ggcatgtgaa cagggcacgc ggtgggctgg tggtttcata gccgacacac   4980
agcgcctacc atgtgcagct gcctgtccga ccccatctta cagacgagaa aaccagcaca   5040
caggcaccaa ggaactgtcc ggaactaaca gcaggggccg gcgatgggag tcaaacccag   5100
gcacgcggcc tggcctgcat gctgagccac atggtgctgt ccggacagat ggacagacac   5160
tcggtggagt ctgcctttct caggccctaa atccctctcc aaagggtact tgcgatgccg   5220
```

```
gatttaaaac ttgctcagag ccacttagcc acttgagaac cagacagtaa ggtgttactc   5280
ccaggtttgt ttttccaaag taacagatga catgtggaat aaagtaatag agtaacaagt   5340
ggcagggcca gaaccagggt ccccaaagtc ctggtgttgg cacatttgta cttcttgtaa   5400
gaccatcttt aattttctg ggaacacacc tgccttttgt gtaatgcggg gaagactaat    5460
gcatggtgac acctagtttt cctcaacagg acacttgatc ccaaaacccc tttaagacct    5520
taggtttcct cagcggaaaa ctgtacttta atcccaaacc ccctttaaga catattgggg    5580
ctgggcgcag tggctcacgc ctgtaatccc agcactttgg gaggctgaga tgggtggatc    5640
acctgagatc aggagttcaa gaccagcctg actaacatgc tgaaacccca tgtctactaa    5700
agatagaaaa attagctgga catggtggca ggcacctgta atcccagcta ctcggaaggc    5760
tgaggaagga gaatcacttg aacctagtag gcagaggttg cagtgagccg agatccccc    5820
attgcatttt agcctgggca acgagagcga aattttgtct caaaaaaaa aaaaaaaaa     5880
aaaaaaaaa aaaaaaaaa gatacattgg tctttaaacc caaaccccct ttaaggcatg     5940
ttggtctcaa ggggatttgg gattgaagca cagctttctg ttgaggaaac ctaggtgtca   6000
ctttttagaa cattaaaaag aaagttgtag ggtgggcttt tccatttaaa ggaatgtgat   6060
gatcctaggt tctgatgagt gataggtggt ctccgtttat acccttct ctttggcac      6120
ctgtaagttc cggtagtggc catcttacat tctcatgtcc tgctggaagt gcctagttgc    6180
ctgcaaagcc agctaaggct tattatttca aaagaagatt atttaaaaca tgagtgacag    6240
gtagtcagaa gagaacaaaa ggacgcaaga tactctatag ccaagtcagc ttggaggcag    6300
gatgggttgc tgagtgaagt cgccgctcac ttttggattc ttatggactg tgagttagtc    6360
ttccctctac acggagtcac aggaagggta taaatgcatg ttcctgaggt gccctccccc    6420
aaagaatgta cctgcactca aaccaggatc tgttttgct gttttaatca taaatagact     6480
agttagtaga agacttttga agaacaaagt aaaactttt tttttcatta aaagatgtcc     6540
cagaggaaag gccctgtgca gccagtatat tctaatgact gcctggacca tgtcctaata    6600
tggtggtttt aagttgttgg ccaaaatcct ttaaagacat acgaaacatc tgccaacttt    6660
ttagcgaact taacaggttt cactgacgtt ttcctcaatt tttgaattta ggtgggattt    6720
gctttcatgt cctgtttcaa aaaccaagtg tctcttgaca gcccactggt tcttcctgtc    6780
ctcttgctct agtctgtatc agaaagcaga atgactgtac ttttgtttta caaacaacca    6840
cctgatagga cggacactcc acgagataag gaaaggcacg tgcccttgag cttgaatgga    6900
agcagcctct ggagggggca gccactgccc ttcgagggag agcagctctt cagcagtggc    6960
cagagtgcca cgtgactctg cagatgaccc ctgggagccg ggtgatgggc acctgctggg    7020
gcttttgttt tttctttttc actggctggc ttgatcctca gtggcaaaag gacccctgag    7080
cccttctcc gagccctgga gcactcctcg ggacaccgag tggcctcagg gctgggttca     7140
gagctcctcc cgcagggga gcctcagaag tggaggcagc tgctgatggg tgagtttaca     7200
acttcttatc ctgcctaagg cgagtaggcg tttttattcc gtttccagtc cttgagctca    7260
gcagatcaaa ataacagtga ccctgcaacc ccacagagcc cgcgacacgc tcgctttctt    7320
ccccgccctg ccccttagt ccccgctctg gaaggccagg cagtttaggt gtaaataggt     7380
atctttatg gtttccaaat gaattatttg tgtgagagta attaaatctg taagaaaacc     7440
tgttgagatt cttcactatg aattatgact tctacaacat gtattttagc aaaaacacga    7500
tgctggcctc cactggatag ctcagtatgc tgattgccag tgatagttct gtacgcgtta    7560
ccaacagcgt ctttattaac cctctcccac atccagtgga aatcattgct aggcggtatt    7620
tgttggttgg ctgttagctt tgctttatga tttcatgttt cttttaaagg ttgttttgca    7680
tgttgaatat taaatttttt ttttctgtgt cttcctctaa tcttttctg taatgggaat     7740
ttcagggtaa atacagatat tatagcaaag                                    7770
```

<210> 5833
<211> 139
<212> DNA
<213> Homo sapiens

<400> 5833
```
tcacacaaac tacttttttg aactagagtg tgttggaggc agagaaaaat caccctgtgt      60
gctggctttg cctgccgtga gccagtgagg agtccgagaa gaggtgggca ggtcagtgat     120
gggtttggcc agagatgcc                                                  139
```

<210> 5834
<211> 661
<212> DNA
<213> Homo sapiens

<400> 5834
```
ccagtctccc aggagaggtg tagacatgct ttggtttctc tctgatatgt atttattatt      60
gatcttcagt aaatttgact ctgatctgtt aacatggggc taatgatacc tgcattgcag     120
ggttgcttta aaaggattaa taatttgtaa aatgtgtagc ccagaccccg ccgtccacta     180
agagctcagt aggtgtcact attatcattg atgccactta gcaaatatga gctctttaaa     240
tcattatgac aactttgagg ggaagatgcc cttagtccat tgtacagatg aagaaactga     300
ggcttagtga ggagaatgga tggcccctgg gtcccatctc ccgtcgctag agaactgggg     360
agcaagaatt ggagttctgg ccgggcatgg tggctcacac ctgtaatccc agtactttgg     420
gaggtcgagg caggaggatc acctgagccc aggagttcaa gaccagcctg gacaacatgg     480
cgaaacgcca catctacaaa aagttttaaa aattagccgg gtgtggtagc acgtgcctgt     540
ggtccctgtt gcttgggagg ctgaagtgag aggatcattt gagcccagga ggttgaggct     600
acagtgagct gtcattgcac cactgctctc tagcctgggc agcggtgtga gaccctgtct     660
c                                                                     661
```

<210> 5835
<211> 139
<212> DNA
<213> Homo sapiens

<400> 5835
```
tcacacaaac tactttttg aactagagtg tgttggaggc agagaaaaat caccctgtgt       60
gctggctttg cctgccgtga gccagtgagg agtccgagaa gaggtgggca ggtcagtgat     120
gggtttggcc agagatgcc                                                  139
```

<210> 5836
<211> 86
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (21)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (65)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (74)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (76)
<223> n equals a,t,g, or c

<220>
<221> SITE·
<222> (85)
<223> n equals a,t,g, or c

<400> 5836
```
taaaaaaaaa aaaaaaaaaa naaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa       60
aaaanaaaaa aaananaaaa aaaana                                           86
```

<210> 5837
<211> 130
<212> DNA
<213> Homo sapiens

<400> 5837
aaaaaaaaaa aaaaaaacaa aaagaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   60
aagaaaaaat aaaaaaaaaa aaataaaaaa aaaaaaaaaa aaacaagaaa gacaaaaaaa   120
aataaaaaga   130

<210> 5838
<211> 165
<212> DNA
<213> Homo sapiens

<400> 5838
ggggggggttg gtttaacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   60
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa   120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa taaaa   165

<210> 5839
<211> 143
<212> DNA
<213> Homo sapiens

<400> 5839
aagaaaagaa aaaaaaaaaa aaaaaaaaaa agaaaaaaca aaaaaaaaaa aaaaaaaaaa   60
aaaaaaaaaa taaaaaaaaa aaaaaaaaaa aagagaaaca aaaaaaaaaa aatagaaaaa   120
aaaaaaaaaa aacaaaaaag gag   143

<210> 5840
<211> 116
<212> DNA
<213> Homo sapiens

<400> 5840
aaaaaaaata aaaaaaaaaa aaaaaataaa aaaaaaaaaa aaaaacaaaa aaaaaaaaaa   60
aaaaaaaaaa aaaaaaaaaa acaacacaaa aaaaaaaaaa aaccaaaaac aaacag   116

<210> 5841
<211> 151
<212> DNA
<213> Homo sapiens

<400> 5841
aaaaaaaaaa aaaaaaaaaa gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaacaa   60
aaaaaacaaa aaaaaaaaaa aaaaaaaaaa taaataaaaa aaaaagagaa aaaaataaaa   120
ataaagaaat aaataaaaaa aaaaaaaaaa a   151

<210> 5842
<211> 125
<212> DNA
<213> Homo sapiens

<220>
<221> SITE

```
<222> (33)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (49)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (61)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (90)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (91)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (116)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (117)
<223> n equals a,t,g, or c

<400> 5842
gttgtggaaa aaaaaaaaaa aaaaaaaaaa aanaaaaaaa aaaaaaaana aaaaaaaaaa      60
naaaaaaaaa aaaaaaaaaa aaaaaaaaan naaaaaaaaa aaaaaaaaaa aaaaannaaa     120
aaaaa                                                                125



<210> 5843
<211> 151
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (4)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (45)
<223> n equals a,t,g, or c


<220>
<221> SITE
<222> (89)
<223> n equals a,t,g, or c


<400> 5843
aaanaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaagga aaaanaaaga aaaaaaaaaa      60
```

```
aaaaaaaaaa agaaaaaaaa aaaaaaaana aaaaaaaaaa agaaaaaaaa aaaaaaaaaa        120
aaaaaaagaa aaagggaaaa aaaaaaaaaa a                                       151


<210> 5844
<211> 118
<212> DNA
<213> Homo sapiens

<400> 5844
ggattacata ctgttgccaa ctgaaggttg gaataaactt gtcagctggt acacattgat         60
ggaaggtcaa gagccaatag cacgaaaggt actgtttaat aataactgac tataaata          118


<210> 5845
<211> 195
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (3)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (30)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (32)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (37)
<223> n equals a,t,g, or c

<400> 5845
gcncccaata cgcaaaccgc ctctccccgn gngttgncca attcattaat gcagctggca         60
cgacaggttt cccgactgga aagcgggcag tgagcgcaac gcaattaatg tgagttagct        120
cactcattag gcaccccagg ctttacactt tatgcttccg gctcgtatgt tgtgtggaat        180
tgtgaacgga taaca                                                         195


<210> 5846
<211> 1276
<212> DNA
<213> Homo sapiens

<400> 5846
tttttttttt ttttgttgtt gttgagatgg agtctcgctc tgtcacccag gctggagtac         60
agtggcatga tctcggctca ctgcaacctc cgcctcccag gttcaagcga ttctcctacc        120
tcagcctcct gattagctga gattacaggc gcccaccacc acgcctggct aattttttgta       180
tttttagtag agatggggtt tcaccatgtt gaccaggctg ttctcaaact cctgacctca        240
ggtgatctgc tcaccttggc ctcccaaagt gctgggatta caggcatgag ccaccatgcc        300
tggccaggca ctgtgggttc tacaggatgg gtctgtaatg tcacggtgag ggctctctct        360
agtagtagat ctggagtgag gtgtgtcttg ggttgaggag gtggcttgac tttcgaatgt        420
aaaactgact gtgccttagc atcaccctgt ccagtgcccc tggggcagct ggtagtgtcc        480
agaagaatgg acacctgctc cagatttaga tgcccatctg ggcttttgtt tgatttgcgg        540
```

```
cgttcctgtc ttctgtaaag ctagtgagtt gtcccaagag actgatgcca cagcttgttc     600
gcagtttaca caaactcagc tttaaaattc caaatagaat ctgacttgca aactctagct     660
gcagcatgtg gagcttctag atgtttacta ccttgaatgg ttgtcagtgt cactgaacca     720
caggggagag gagtatgggg tagagcaatg gtctgggcca aggaatggtg agcttagggt     780
cttcctctga ctccttactc ctcaaggagg cagttagggt ccctcttaag caggcttcta     840
tttcttacca ctaaattggt ttcctttttc atccagaagt tagaactccc cagatattca     900
cactatagga tctgaattcc gagattctaa aatatcttaa accacaagag agaaaatcta     960
gttctgcctc agccccagtc agcaggccat ctgtcccttc ctctcctctg agtcagacag    1020
ctctggcaag caaggctcct tggctagttc ctaatgcact gacaggagcc ctcccattaa    1080
ggacgacttc tactcaaaat gcgactctcc ctctgaactt cagatgcctc tgttagcagg    1140
aaaaggcatt gattggattg gatatattta tgtgactgcg ggcatttgtg ctgtagaat    1200
ccgtgaccgt aatgttatat gtaatgggaa ctatcttata aacttgaaaa aaataaagtt    1260
tttatttttct atagtt                                                   1276


<210> 5847
<211> 487
<212> DNA
<213> Homo sapiens


<400> 5847
gagtggtacc cccaccatgc acgcaagcac acacacacag atacttccct ctccaccctt      60
ttgggagctc tttatttag aatgtaactt gaactcactt ttatcattgg ccttttttcct     120
cttactctga cttcctagct tagctctttc caaaaggaac ttgaacttgg ccaagagagg     180
taaggaggct gagcagagca gtctttgctc attcctggtt gttgccaccc tcatttaaat     240
ggaagagaga aaacaggagc ttcttggctg tttgccaaaa tgaattgtcc agggaacaca     300
gtgctctctg taattaccct gccttttctt ccaccccaac acaaaaatct ggaaaggaaa     360
ataagtgggt aggattaaga gctgttagaa gctgaggacc aaaggacact gtgggtccat     420
tcatcaaggg ggagacctc ttcattagag tcctcatgaa attagccaaa tgatgagtcc     480
ttccccta                                                            487


<210> 5848
<211> 8093
<212> DNA
<213> Homo sapiens


<400> 5848
caaaggcata agttgggagc gactgagcca ctccaggagg aggtgtgggc ccacggcgtg      60
ttggaggtgg agccacagga cctgtccata ggttggatgc tgtgtgggtg acagagagaa     120
accgggggctc acggcctggg cagcgggacg ggcggagtcg tcctcacctg tgctggggac     180
cctgtgggag cagcaggctt ccgagcacgt gctggacccc ggcgtctccg gctgcaccga     240
gtggtcagga cattgaggcc gggtcaggga gcgtgagata ccgggacgag cgggcccagg     300
gctgagccca gcggcgtccg ggtgggcggt ggcgttgaga tgggaattgg gaattgcacc     360
ggtggtctca ggaggatgga aaacccaagc agcagctgca ccaggaccga ggcaaaggga     420
ccgcagttta acagaaaacc caaaacgaga gcgagaaaac ggccaaacac ccgtgcgagt     480
gagacgtcca tgagccttcc cggcaaaacg cccaataagg gagaaggggc aggcgcggcg     540
ggggccgggg ttccctgaag tccccttcgt ttccagaatc cctaaagatc attccgcccc     600
ccagggagga aacccaagct ccgccgagcg cggcgggtct gtgccttcgc ttcgcttcca     660
gcctctcgct tccttctgac ccgaccccga gttctttctc cggacggtgt cgagaacccg     720
ggcgccggct ggggctggag tctcgctggc ctcggagcgc ccccgagccc tcgggcgaca     780
gcgaggcgag gacccaggtg gaggcggccg ggggcgcggg cggagggagg aggcgcggga     840
gggaaccccc ggcccgcggg ccccacccac agccgccccg ggacgcagct cggggtccag     900
gctcgagctt tgctcactca gggcgcttcg tgcagggaac gccaggcccc cggacgcgac     960
ccacgcggcc gctgccagcg gggaccgagg ggagccgggg ccgcggccgc gagtccacgt    1020
cccgcccccg ggcccggccc agcgaccgcc cccgccgccc agggaccgcc cccgcctccc    1080
agcgaccgcc cgggccctcg gggcggggac cgcggacctt cctggtggcg cggcagccgg    1140
gcggctcctc cttcctcccg gccctggcgt ggagcagagg gacacaggtt cccacgctgg    1200
cgccggcga ccgggtgggg ctgcggtgag tcccataggc ccccgccccg cagctcccgg    1260
ccgcccggc ccgtccccc agcccccggt cgccccatcc tccctccccc acccgcgcct    1320
gccccagccg cctacacccc cgagaccccc acccgcccgg cgccccggca gccccggact    1380
```

2773

```
ccctccccca tcccgcccag cgctccccc accctccaca cacgcccgcc cccacgtgcc   1440
accaacagac gcaggtcccg accacagagg gtgggggcaa gaccggggtt gtggggggtg   1500
cgtttggaaa gcagggttag gactggaatt ctaaggtagc aggaggggaga gacacactca   1560
ggggctcagc tgggttcctg gagatcaacc tttggggtct gagcccctct gagagtcgag   1620
ctccttccct gcgaggcccc gtctaggagg ggcctcagga aaatcggggc tgcccagctg   1680
gttccgcaac tccccccagt tctgagggag gcttcagggg attacagacg gtctcaagag   1740
ggaggcccag ccagtcccgc ggcccctgac accccatcag gccgctcagg cccagcagct   1800
ccatggagga cgccggcgag gaccccacca cgtttgctgc ccactctctg cccagtgacc   1860
cccgtctctt ggccactgtg accaacgcat acctgggcac acgagtgttt cacgacacgc   1920
tgcacgtgag cggcgtgtac aatgggctg gcggggacac gcaccgggcc atgctgccca   1980
gcccctcaa cgtccggctg gaggcccctg cagggatggg ggagcagctg accgagacct   2040
tcgccctgga caccaacaca ggtagcgcca cctggcctgc ctcacccctg ccccaggcat   2100
tgttccaggt cggtgggca accacagcat cgaatcccac cagcacctcc tgagtttaca   2160
caggaagtct cactaagaca ggaggccca gaggcccgca gggtccccc ttccctccac   2220
ctggaggcct cctgtgcagc tgtagcggga acgagcagcc gagggcccag agggatccgc   2280
ctcattgtgg ggagaggcag cggtcgggtg gtccactcct gccccagaga ggccatagct   2340
tggcaaccca cctgccttcg cttctgcctc cccaggctcc tttcttcaca ccctggaggg   2400
ccccgcttc cgggcctccc agtgcatcta tgcgcatcgc acgctgcccc acgtgctggc   2460
tttccgagtg tccatcgccc gcctggcccc ggggagcggg cccatcacgc tgctcctgcg   2520
gtcagccttc tccccagaaa gcccagacct ggacctgcat cagggtcctg acttccaggg   2580
agcccggtaa ggagggggct ggatttgcag ccaggagtc cagggaggga gctcatccct   2640
gaggcatggc cacgctctca caggtacctg tatggccaca ccctcacccc tgagcagccc   2700
gggggccac agcaagaggt acacatgctg tggacaccag cacccccaga cctgacccctt   2760
ggggaaggtg aggaggctag gacgtgggac ttcctgacag cagtgggcgg cagccaggct   2820
gaggctcagg cctgcctcac tgaggccctg cagctgcagg ccaggggagc tctgtatacg   2880
gctcacgcac aggcctgggc ccagctctgg gtagaatgtg gcttggacgt ggtggggccc   2940
ctgcagctgc gccaggccct gcgtggctcc ctctactacc tgctcagtgc cctgccccag   3000
cccaaggccc caggatacat ctgccatggc ctcagtcctg ggggcctctc caatgggagc   3060
cgtgaggaat gctactgggg ccacgtcttc tgggaccagg tgagcactgt acacccagca   3120
ccagccacac agcaggcgac acatggaggt ccacggtctc tgccctccct gggaccaggg   3180
ctatggttgg ggaagcacag ggactgtggc aaaaagggaag aggcctggaa ggtgtgcagg   3240
agtttggtag aggagtgatc taggtgaggg gaatggaagg tgcagagacc agagctgaga   3300
gggcctgagg cactttccag agcgtgggga ggggcctcca ccaaggcgag aagggctgca   3360
ggtccagatc accagcgttt gtagacagta gtgtggcgct tggagtttac ctgagggcca   3420
gtggagctcc agggacctat caggacgggg acctgtgggg actgggaagg cctgtggggc   3480
tgcgtggagc ccggtactgg aggccgacgg gggtgacggg gacgctgagg gcacagagcg   3540
gaggggcatg atggctgctg ggcgtggagg tgtcgagagt gactgtgctg gggctgctcc   3600
atcgttgtct gagcctcccg gtgctgccgc tgtggccgtt tctttgatga ggctctcaga   3660
ggccgagtca ttcactgcca gcctgaagct gcccatgcgc atattcgggc tggagcctct   3720
gaggccacac aaacgccggc tggggaggcg aagtgtgggg ctgagcacca gaactccagg   3780
agcgtctggg ctggagacag aactgggtgg gcaggtgggg agggcctgca gatctgagtg   3840
ggcagccgag gaggaaccca gaagacgcca gcgatggagc tctgccgggg cggaatgtgg   3900
ccaggagggg cgggagcagt gacggcctgt ccggcgctag aacgagggac cgtgctctca   3960
ggacctctgg atgttcccga gtatcctgat gttccaccca gaagccgcca gggccatcct   4020
ggagtaccgc atccgcacgc tggacggggc cctggagaac gcccagaacc tgggctacca   4080
ggtgagggga cctggggcac tggcccgtag ggccctgcag ggcctgcagc ccccacaccc   4140
ctcccaggcc tgtatccctc tccccaggcc ccctctggac aaagctggga catcctagat   4200
tccccaccct gaggcttgtg gggcctcagc agtgccctgc agcccgcacc tgagagagag   4260
gaggtgggaa ccgcagcggg ctgggaccct gctttggccc aggacccct gggggtgccct   4320
tgctgccctg caccagggtc agcactcggt gagaactggg cagaagccac ctggcccgt   4380
gaggacgtgc agtgggcctt ctagcagtag cacccgccag ggtacctggc gcaggccgag   4440
cccccctcc tccagggcga gggcacggga aagttggggg gccaccgctc ccctccaaca   4500
aggtcaagtc tgcccctcc caaccctca gggagccaag tttgcctggg agagtgcaga   4560
ctccggccta gaggtttgcc ctgaggacat ttacggagtc caggaggtcc acgtcaacgg   4620
ggccgtggtg ttggccttcg agctgtacta ccataccacc caggtgaggt gctgcgtgcc   4680
caccattcct gcaagtgtgg ccaggcagct ggtgtagccc ccactcctcg tggcttcctg   4740
tttggggctg gtcctgggaa gctggctgag gacaggtgtc tcaatgccag gccttgcttc   4800
tgggcacaga caggccacta ggaatgagag tgactggggc cctggcctct gtgcctcctc   4860
ctgctcccca ggacctgcag ctatttcgag aggctggtgg ctgggacgtg gtcagggctg   4920
tggccgagtt ttggtgcagt cgtgttgagt ggagccccag ggaggaaaag taccacctga   4980
ggggtgaggc catggtgggg aggggctcgg ggaggaatgg tggatgctcc cagactcagc   5040
```

```
agatgatttt cagacacctc acgtgtgcca gccccacgct gaccaccggc gtggagggaa    5100
ggcctctgag actctgcact gagcaccatc ttggacttgt gtgtccagga gtcatgtccc    5160
ccgacgagta ccattcaggg gtcaacaact ctgtgtacac caacgtcctg gtccagaaca    5220
ggtcagacac aagatcccct cacctcaccc caccccgcc ccagctggag acctgccccg     5280
gtgcccccac taggcaggca gcagctggaa gtgtaggggt tgcagcctcc cccacctacc    5340
tccacctcca gcctgcgctt tgctgctgcc ctggcccagg acctgggtct tcccatcccc    5400
agccagtggc tggcggtggc tgacaagatc aaggtaccct ttgacgtgga gcagaacttc    5460
cacccggagt tcgatgggta tgagcctggt gagtggaccc cttcaagggc tcctcccctg    5520
ccgtcgagac cctcgagtct gtcctggaac accttccagt cagcggcacc tccctgtagg    5580
agaggtggtg aagcaggcag acgtcgtgct cctgggatac ccagtcccct tctccctgag    5640
tcctgatgtt cgcaggaaaa atctggagat ttacgaggct gtgacgtccc cccagggccc    5700
cgccatgacc tgggtgagca ccctggggct gtggagttcc taccccattg gcctcagtct    5760
tctctgccca cgcagtgggc ctcacccctg tgtgtcctct tacctctgac cccagagcat    5820
gtttgctgtg ggctggatgg agctgaagga cgcagtgcgg gcccggggcc tcctggacag    5880
gagctttgcc aacatggctg aacccttcaa ggtcagcctg gccacacctg cctcccactg    5940
ggccccttgt ggtgggagtg gagcccagcc tcagagcagg cacagcaggg tgcacccctg    6000
gagcttcctg ccggatcttg ggacagcagc ccagagagga cggtgacctg ggggtcctgg    6060
tgtcagctgc ccttgcccct gcaggtgtgg acggagaatg cagacgggtc aggcgctgtg    6120
aacttcctga caggcatggg gggcttcctg caggcggtgg tcttcgggtg cacggggttc    6180
aggtaagtgc agaggctggc agagggcagc ccatgccccc acctgccacc tcacaagcct    6240
ctcctcccac agggtcaccc gagcgggtgt gacctttgac cctgtgtgtc tgtcggggat    6300
ctccagagtg agcgtctccg gcatcttcta ccaggggaac aagctcaact tctctttttc    6360
cgaggactcc gtgaccgtgg aggtcacagc tcgagcaggg ccctgggctc ctcacctgga    6420
ggctgagctg tggccatccc agtcccggct ctccctgttg ccaggtagaa cagcccccaa    6480
cagcccaggt gcctgcgacc ccaggctgcc cctcacccc aggctgcctc tctccctgca     6540
ggacacaagg tctcctttcc ccgctcggct ggccggatac aaatgtcacc cccgaagctg    6600
cctggaagtt ccagctccga gttccctggg aggacttttt cagatgttag ggacccgctc    6660
cagagccccc tctgggtcac cctgggttcc tccagcccca ccgagtcact cactgtggac    6720
cctgcctctg aataatcagg aacggtggct tcagagacgt ctcttgggcc ttccctctgg    6780
ccacgtctgc acccacccct cctgggcacc ctcctagcct gccatccctc acctgcagcc    6840
aggctctcag ggaaggtcca tgctgcttgg cctgagttca aggctttctg cctgtagcct    6900
ggactcccgt ggaccccgt gggcaggtgg cttccccgtg gcatctccac accgcctctg     6960
cctgcccctg tggactgatg ctatcgcgca ccgtcccacg accccacccc gagctcctga    7020
agccggggtc tgagcctgca tcacctctgg cctctcatcc cccactctcc tgagagcagt    7080
ggtcacagcg gccggccgct ctgctgagaa ggcagagagg caggctcagg cctcagcgtg    7140
gacagcaggg ataaggggca cgaaggacgg ggactcggcc ccttcagaat tcctcaggac    7200
tctcaggtgc agctttgcca aaaaggaact tttcatgtca tgcagttgag gggacttagt    7260
ctcaatccca ggctcctctt gactctgggc agctttaatc aggttgggca gcctctgcta    7320
cagcgtgggg tgggatggct ctcttccctc agccacgccg cttgtgagga cagaggtggg    7380
ggagtgggaa gtgggaagtc accagagaac aggagaggga tttgagggcg agaccccagc    7440
gctctccacg gaccagccag agggactgga gccaggtgtg catgggttca aggccctggc    7500
cctgcccagc ctttgtcttg ggagctcagc cccagggttc ggtcgtcagc agtttcccaa    7560
gaacaagatg tgatggcatc tgctgctgaa accctgatga ggaccaggcc ccctgcaccg    7620
ctgtcagcct gaggaattaa agctttggtg ctggggagag cattattcct ctgaggagcc    7680
gctgtgcttc cttctgaagt gagggccgtg ccccgggtcc catttctcct ttcacttgag    7740
tcgggaagca cagcaacttt aaggctcgcg cccagcaaca tggctcccct cgcatctgca    7800
tctccctcct gctctggtgt tgccgctgca ccctgtcctc ggaggacagc agaggtttgg    7860
acggagactc agggagggag ggaaggaggc aaggacgcct gtggaaacat ctttcaggca    7920
gctctagggt ctgggggcca ggatgcctgg gtctcccaag gcctgtctgc tgtctctgcc    7980
accctcagcg gctgccagaa gcagcgtgtg ggggaggcat gtgctgcagc acacctgcgg    8040
ccgagaccag cactcagagg tcggctcccc tgacaggaac cgtgtagggt gca           8093


<210> 5849
<211> 245
<212> DNA
<213> Homo sapiens

<400> 5849
tgacgactgg gcatttgaaa acccgaagga gtgaggggc aagccccaaa gaggtcttga       60
gaaaaagggc ttcaggcaat tatgctgcca gagcaagcca ggcggggagc ttggaaagct      120
```

2775

```
ccagaagcag caaggaagcc aggtagcgac agcggagtag gggagggggga ggagatgagg     180
tcagggaacc caggcaggtg caggaagggg tttgcgggtg gagcttgcgt gcttggaaag     240
ctcca                                                                 245


<210> 5850
<211> 947
<212> DNA
<213> Homo sapiens

<400> 5850
ccagagccag ggtgatgtgg gcacaggtgt caagtcaggg tggtcggtag ccttgcgccc      60
gcaggagaga tatggcctga agcctgctgc acgtgcgtgc cacacgcgtg tggggccacc     120
tctgcacatc ctgaggtgac ccttttgggg gggtcgtgat ggtcagtgca cgtgtgccgg     180
cagggctggt cagggttcat cgcctgccca ggagcctgag cctgaggcag ggaggtgctg     240
gtgaccgttc ccccaaggtg gctcacccac agcaccggga atggaccagg tcgtccctgc     300
ccctcagtaa gcctggggac tggcagaccg tctctttct ggggacacgt atccagccac     360
acatgggctg accccctccc agtctctgca cccgacacag tttgatccct tctcaggcca     420
atcctgaggc tcagggctgg cacactgtct ctatcccaag gcaagcacag gtgggcacac     480
tgcccttgtc cttggtccac tgtgggactg gtcctgtctg tctccagcgc ccagcatggc     540
ctccacacac ctctgcctcc agggctggct gggcctgccc tcagagtccc tgccacgcca     600
gccgttggct gcaggcatat cacagatagg ggatgctgcc cagggctccg agtagaccaa     660
aagattcctg cccacagccc aggaagagca ggcaggcaac ggcgattccc cgggaaggga     720
agggccccgg agtgggggtgc tcagaaccct gggccactgt gctgttaacc accacctccc     780
ggcaatggct ggcctcagcg aggccccagg gcctccccgc agcctcgcag tgtgcatgtc     840
cctggccctc tcccatcacc aggctgtggt gggtgtgtgg ggaggctgtg gtacacaacg     900
caggtaaaat aatatgagaa catgcaccca gcaccagggg actcaga                  947


<210> 5851
<211> 660
<212> DNA
<213> Homo sapiens

<400> 5851
ggaaaccccg gagcatgttt agaagatgac aatataatga tcattatgtt agtcatgaaa      60
tgggaagaat ctatcatttg gcaccatttg gtactgtgtg ccaactctgg cttaagcatt     120
ttgctcatat taccctgtaa ggtcaataat tattatcccc attttgctgt agagaaaact     180
gagtattctg atacaacttt aactttcctg gggtcaaaaa aattatcagt atcactagga     240
tttgaactcc aggtcaatct gattttaaag catgtactct taagcattag aacagtggtt     300
cttttgactg ggcatggtgg ctcacacctg taattccagc actttgggaa gccaagggtg     360
gcagattact taaacccagg agtttgagac cagtccaggc aacatggcga aaccccatct     420
caacaaaaaa tatttaaaag ttagacaggt gtggtggcat gcacctatag tcccggctac     480
tcaggaggct gaggtgaaag gattacttga acctgctagg tagaggctgc actgagccaa     540
gattgtacca ctgcactcta gcctgggcaa cagagtgaaa ttctgtctct aaaaaaaaaa     600
aaaaaaaga gaaagaaagc aagaagaaa agaacaaaag caaaaacaaa aacaaaaaa       660


<210> 5852
<211> 664
<212> DNA
<213> Homo sapiens

<400> 5852
ggaaaccccg gagcatgttt agaagatgac aatataatga tcattatgtt agtcatgaaa      60
tgggaagaat ctatcatttg gcaccatttg gtactgtgtg ccaactctgg cttaagcatt     120
ttgctcatat taccctgtaa ggtcaataat tattatcccc attttgctgt agagaaaact     180
gagtattctg atacaacttt aactttcctg gggtcaaaaa aattatcagt atcactagga     240
tttgaactcc aggtcaatct gattttaaag catgtactct taagcattag aacagtggtt     300
cttttgactg ggcatggtgg ctcacacctg taattccagc actttgggaa gccaagggtg     360
gcagattact taaacccagg agtttgagac cagtccaggc aacatggcga aaccccatct     420
```

2776

```
caacaaaaaa tatttaaaag ttagacaggt gtggtggcat gcacctatag tcccggctac    480
tcaggaggct gaggtgaaag gattacttga acctgctagg tagaggctgc actgagccaa    540
gattgtacca ctgcactcta gcctgggcaa cagagtgaaa ttctgtctct aaaaaaaaaa    600
aaaaaaaaaa agagaaagaa agcaagaaag aaaagaacaa aagcaaaaac aaaaacaaaa    660
aaaa                                                                 664


<210> 5853
<211> 420
<212> DNA
<213> Homo sapiens

<400> 5853
tgcctgtgga attttctaca actttcctct agttccatta gttacctcct accccaggac     60
tgggcttgat aagcctcatg agaggctgag tagatattta atctctagac taagcctatt    120
gatttcctac tttctgccac ttggtcaaac tttggtctcc ttttataata atgttcttat    180
ataataaact tgcattcttt cctttttctt ccccagaata ctgacctttc atacttttag    240
gaactgtgga tcagtattta aaggcaagat tttgatcttc aaaaattttt ttctccttct    300
taggcaccag actcttacag ttcatgagtt agaaactcaa gaacaaatac aatactttgg    360
tctttctggt tctataggag tgagagagag agtgatgtct gcattctaca aatactagcc    420


<210> 5854
<211> 420
<212> DNA
<213> Homo sapiens

<400> 5854
tgcctgtgga attttctaca actttcctct agttccatta gttacctcct accccaggac     60
tgggcttgat aagcctcatg agaggctgag tagatattta atctctagac taagcctatt    120
gatttcctac tttctgccac ttggtcaaac tttggtctcc ttttataata atgttcttat    180
ataataaact tgcattcttt cctttttctt ccccagaata ctgacctttc atacttttag    240
gaactgtgga tcagtattta aaggcaagat tttgatcttc aaaaattttt ttctccttct    300
taggcaccag actcttacag ttcatgagtt agaaactcaa gaacaaatac aatactttgg    360
tctttctggt tctataggag tgagagagag agtgatgtct gcattctaca aatactagcc    420


<210> 5855
<211> 1218
<212> DNA
<213> Homo sapiens

<400> 5855
gtcaccttct cctcctttcc ctgctggggg tggcaggggt ccctttaccc cctcattctt     60
gacccttctc cagggatgct tgtgacctcc ttaccccacc ccccatcacc tctctgtcct    120
gaagtgaggg tttgtcaccg tccatggcaa ggtgtggtgt ctggtaggct ctatgacctg    180
ccttctctca gggtgtttat tctgcagcag agaggggtct gcggtctgag tgtaatggtg    240
gaaatccagg cttccttcca tggcccaagg aggcctttcc ggagcaacag ggttttcctg    300
ggactcagcc tggcttttgt taaggcaggt cccggattta ctcagaagat gggccccaga    360
gaggaggaga ggaaaggaat acctgtcagt caaacgtgaa gcccactgat gacactgcct    420
ggcagagctg cctccggtca gcagtgaccc ttcaccccccc agctcccaag tcctcttcct    480
gagggagctg gtccggcttt atggaaggct ccgcctgtgt tcccccactg ggtccctggt    540
ccctcacctg tcacgtgggg cgatggtcac cctccctccc tgcctgccct gaaggataca    600
ctgagatgaa ggtcaggaaa tctgctggct gcagaaccag gggccatgca ggagtgaggg    660
atggtctggt caagttgagg ctctgcccca gcctcagttt ccccacacag gcatgagact    720
gtcttcctga ctttcagagg acagggctga gatgggatga gggaacacag ggaaagcgtt    780
tagcacctct gagtgctgtg tggatgcgac ctgggggggtc ctggcctcca ctctttaatt    840
ctatctggac tgtgtgccct cctacctcca gtttccctgc gggggccttt cacagggcct    900
ggcttgcgga tacggggttt ggcgtagggc agtgcttctc aaatgggaag cgcactggg     960
attcttcagg ttggggtggg gcctgaggtt ctgcatttct aatcagttgc ctaggactgg   1020
ctctaattct tgttgaattt acaatcactt gtggagttaa gaaaaacata ctgggccttg   1080
```

2777

```
gttgggtgtg gtggctcaca cctgtaatcc cagcactttg ggaggccaag gtgggcagat        1140
catgaggtcg agagattgag accatcctgg ccaacatggt gaaaccttgt ctctactaaa        1200
aaaaaaaaaa aaaaaaaa                                                        1218


<210> 5856
<211> 142
<212> DNA
<213> Homo sapiens

<400> 5856

gggcagtggc tcacacctgt aatcccagca ctttgggagg ccaaggcggg cggatcatga          60
ggtcaggaga tcgagaccat cctggctaac atggtgaaac ctcgtctcta ctaaaaatac         120
aaataattag ccgggtgtgg tg                                                  142


<210> 5857
<211> 151
<212> DNA
<213> Homo sapiens

<400> 5857

ggtggcaggc gcctgtaatc ccagctactt gggaggctga ggcaggagaa tcacttgaac          60
ccgggaggtg gaggttgcag tgagctgaga ttgcaccatt gcactccagc ctgggcaaaa         120
agagcgaaac tctgtctcaa aaaaaaaaa a                                         151


<210> 5858
<211> 7712
<212> DNA
<213> Homo sapiens

<400> 5858
agggatctgc aaagacttgg agaacttcaa tctgaattgg caggagtagc tgatttctct          60
gccacctatc ttcgctgtca actacttctc atcaaggttg gtttgcatcc attccattta         120
tgattgtgtt gctaaaaatg catctttgtg gatccagcag tgtgtgaggc cataagttat         180
aaaacttatg gtcttaatgc aaccacttga caatggagaa atatgtactc tgcagtgtga         240
ttacatttgt ctctaattaa cgaaatatta actcatagga atttgtaaat ttggggagaa         300
ttcttttatc ataatataat tagagcagat tggataatca ttttagttag aatcccaagg         360
ttgtaaatgt tttgtataat ttgattagca aaggaattgt atgaagtttt agactatctt         420
cttaaaatgc tcatttgaag gccaggtgcg gtggctcaca cctgtaatct tagcactttg         480
gcaggccaag gcaggaggat cgcttgagct caagagtttg agaccagcct gggcaacata         540
gcgacacctc atctctacaa gaaaatttaa agtaggcagg tgtggtggtg cattcctgta         600
tatccagcta ctcggctgga gttgggagga ctgcttgagc ctaggaggtc aaggctgcag         660
tgagattgca ctccagcctg gatgacagac caagatcctg tctttaaaga aaacaaacaa         720
acaaacaaac aaaaaaactc actgcacttc atcaaagtta aaaggttgat ttcattgctt         780
ttaaaaagac cagcttgctg gcgtttctta ctcagtagtc agctatacac agaattggta         840
cccaagaatc tatttagttt tgctgagtta aaaaacaatt aaatgagttc agtatctttc         900
agcttctgta gcagaatttt actataaatt ttggcacaga atttaggaga gcccttctca         960
cttgacgaac ttttatcttg gccctagttc aaagtgttct ttgtttttcaa agtgattaat        1020
gatgtttggc taaagtcaga gtaaatcagg gagtcaaaag ttattttcta ctgtgtgaac        1080
ttgtgctaaa tgttatattt acagttgtgc aggtgtgcct atacatgtaa aggtgcgtat        1140
gtatacttgg cacttaaatg gtccttgtta ggctagatat gttctttcta atgtatatat        1200
ctgtgtaatc accaccatag gcaagtcgta gaacattttc atcactccaa gaagttcctt        1260
cctgcccctt tgcaaggttg tttggctttt ccaagcctct gtgaaacccc aggaattcaa        1320
ggaggccatg gagaagaatc cacttttcta tagtagcaaa atatgggtga ggaaagagaa        1380
gtgattactc ctaaaaagaa cacataattg ttggttattc aatgacaagg ggtgacagtg        1440
taggtgaggg gcccagagcc agaacccaag gcaagtgtgt ttaataacag gaaaaaagct        1500
aaataaattt tggtacagct acctagcagt atattctgta gtcagtaatt ctttatgaag        1560
aattatacaa caacatgaca aaatatttag ggtgtaatgt tatgtaccca aaagaagggg        1620
agccaatcat aatcccaaaa gatagtccag aacatcatag tcctaaactg tttaaattcc        1680
```

2778

```
aaaagactaa aatccctaag gtctaaaatc ccaaaaacca cagcccagaa aatatcaaaa    1740
tccccaaaat ataattatgg aagaaataat ttaaaaaatt taaagatatt tattttttaa    1800
aggggaattt atttgagaaa cataaaaaca caacagaata ctttatacat cacttaatat    1860
aataaaacag acaataacaa catacatttt tgcaagcata aacactcagg ttactaatga    1920
cagttgggtg ggtctaacag ttatgagcag atgagccata tttataaaga aattggtcat    1980
aaagggaaag gtataaatgc atatcacttt ggttgttaat tgtgtatacc cagctttta    2040
actgtggtca tctgaaatac tgtgcccaac aacctcaagt cttttgacga gattgatgga    2100
aactgtgctg ggtcaccact gcatatgcag tcacccaaag agctgagatc tcaagaaatt    2160
ttatctttca caaatgcaga tgtacgaaaa ggatatctca tttatcgagg aagtttcaac    2220
attttgtgta cacactcaat gcttatacac aaagtcagta ttgtgatgat gcactttcat    2280
ggagtcagat ttctgatatc caagcagcag aacccagaga gtccgttttg ctaatatgcc    2340
attttttttt ttttgagaca gagtctcagc ttatcatcca ggctgaatac agtggcgtga    2400
tctcggctca ctgctgcaac ctctgcctct tgggttcaag caattctcct gtctcagtct    2460
cccaagtagc tgggattaca ggtgtgcacc accacgcctg gctaattttt gtatttttag    2520
tagagacagg gtttgccat gttggtcagg ctggtctcca tctcctgacc tcaggtcatc    2580
cacccacctc ggccttccaa agtgctagga ttacaggcat gagccaccac tcccagccca    2640
tttcgtctta agtatttgtt ctctcctggc cactggctga ttggatggtg cccgccaaca    2700
ttgagggcag atagtctcca cttagtacac tcagatttat acactaatct cttctggaaa    2760
cactctcata gacacaccct caatgtgtaa aacaaaataa tcttttacca ggtttctgat    2820
attccttaat ctagtcaagc tgatatctaa aattaggtcc acaagtccac cccttgtcag    2880
cttggcactc atacgcatct ccttaagcca tatttaattt ccaaataaag acaataacat    2940
ggtaatagtt gtgcctaaca tgatacaact aacatgatgc aactatcctg catacaaccc    3000
aaaacacgct aatcacttcc ccagaatttg gatgtgagga tttcaacatt tgggattgta    3060
tgttttggga ttatgatcta atccccaaac ttaattctgc tttctgacta caactgtcaa    3120
aaaacatgca tacaagaaat gattagaagt aaatattcca gaattccta tagttttat      3180
ctacagttta gacctaccac tgtttaattt gatagccacc agatacatgg gactcttgag    3240
cactcaaaaa gttgttagtc caaactgaga tgtgttatta agtgcaaaat acacactgga    3300
tttctcagac ttagtatgaa gagaaaatgt aaactaatta ataatttaaa aaatactgca    3360
tggtgaaatg ttaatatctt ggatatactg ggttaaataa acttttttaa aaaattaact    3420
tagtctttgt atcttaaaat taacttacat ctttgtaatt taaaaaccgt ggctacgaga    3480
atatttaaaa ttatatatag ctcatgttat atttctattg gacagtgtta gtctaggttt    3540
tctgtaatgt catttgatta catctgtaat tcagaaggac tgagaaaata agaggctgtc    3600
acagaagttt gtgcaaggga tgaggtcatg tggatggata ggtgaggaga gagatggaag    3660
gtaaaatcat ggctcttagt ggtggttttg aatgtagaaa gattgaaaga gggagaaatc    3720
taggaaagct gcttgatttc tagttgaata tgttgataaa gtggttgggg cttacaacat    3780
aatgagcata ggggaaaaga aaaagaacc acagttaagg aagaagtatc taggtggctt     3840
gggttagtcc agtagctctg ggaacaagga gtgcctagag cccggaagct ggcttgcctg    3900
cgcattctgg tgaagctttc gtggttcctg tcctctgctt ccagaagcac tgatctggga    3960
cacagagcct ttgggccaag aattggatca aatgggtggg aattcattta gcccaaacca    4020
ttggtctcat cttttctccat aatagataca gcttattggg ttaaaagaat aagatcaatt   4080
gagaagtcat gttcatggga gactttcaaa ggaaaacaaa aatgtaaatc ccaaatgata    4140
ggccagtctt tgtgacctcg gtattctgtt ccctcctgat ttgtctgcgt aggccttgca    4200
ggaaaagttg tggaatgtag ctgccccttt gtatttgaag cagagtgatt tggcctcagc    4260
agcagcgaaa caggtaagct tattcagacc ttcccttcaa ataggtctct gtccagtaat    4320
tgtctggtcc aagacagagc cagaggcctt cctatagctc tgtctgtgta ggccttgcag    4380
gaaaagttgt ggcatgtagc tgccccttg tatttgaagc agagtgattt ggcctcagca     4440
gcagcaacac aggtaagctt attcagacct tcccttcaaa taggtctctg tccaggaatt    4500
gtctggtcca aggcggagcc agaggccttc ctgtagctct atacctctgc tgtggcctcc    4560
ctaatttcag gctatgacag aagttagtga tatgagaagg agcataacta ggagacacag    4620
cactcacttt ggactcaggg gacctgggtc ctagtcccag gtcttcctct gatttgctga    4680
gtgatattga gcaagttact taaattccct ggatttttc tcttctataa aatgtggcag     4740
ttgggccggg cgcggtggct cacacctgta atcccagcac tttgggaggc tgagatgggc    4800
acatcactta aggttaggag tttgagaccg gcctggccaa catggtgaaa cgctgtctct    4860
actatcatga atctttcatc tgaaaatgta gcccaactca gttaaggttg tttatatctt    4920
tagcctgtac catctcttca acgttaaaag gtcctgggta gttcattaag taggctttaa    4980
ttttatttgt ctctagttta tttcttttta gctttgagtc attccccttt gcacctgagt    5040
attgagactt ggtgatctct tgcaggtcaa gtcttccaga tagggagtct gtaaatgacc    5100
caggaggaag ctaatgatgg tgactgttat tgttacatta cagttcacta aatgatttca    5160
agtctattag cttaattaac cctcataata atcccattag ataggaataa gtattaagtc    5220
tgttttagag atgaggcagt taaggctcag caaggttaaa ttcatagagc tataggtaat    5280
acagtcagga cttgagacca gatcctctga tacccagaat ctgtttcta ctacagtgct     5340
```

                                        2779

```
gaactcttgt ctgatccaga ctctttctca gacctggtat gtggcttatt gtagaagagt   5400
agaatttaat gactagaacc cgataattga gccacattgg aaggatggga ccagggagca   5460
ataatttgga aggaaaagag gaaaggaatt accattgctg tataccagat actgtgataa   5520
acacattgca tgctccattt gatacttgaa acttcatgat attggtactg tttcttccct   5580
gtttacagaa agggattgag acactcatgt aatttaactt gtcttattgc caattgtaag   5640
agagtctgga gtcatttccg tgaccctaga gtgttcactg ggaggcaagc acagaaggaa   5700
aagagaagca tcattttgat gaaaatcgct tatttggata gaaccgagca agatcgggga   5760
cttgatctgg ggtcatagac aaatgttttc ttgcacttat ttctgtccca aactccctca   5820
gaccaggccc atggaacagt ctgtcaggat aactaacata tggttaatag ttcctgatgc   5880
ttaattcttg aggactttgt ggggattggg tttccataca taatatatat taatttgttc   5940
ccacagcaga gtgggcttca tttagggtaa gaagcagtgc tttcagtgct ttgcagtttg   6000
cttagtgatt aaactttctt atcttcacat catcaactaa gatgatttta ttaccaggtc   6060
agtcttcttt ttaagtaggc aaaataattt attctctttt tacaaggcat actatactaa   6120
tttctttcaa cacttaaaag cataaggatg taaaatctca gttaagagtt tcacctaagg   6180
tcatttaaca gtagaattct atgctgctct caagtaagac tatgatattt ttattgattg   6240
ttaattatct ttcctttata gattatggaa gagacctaca aaatggaatt catgtacagt   6300
ggtgtggaga ataagcaggt ggtgattata catcacatga ggctgcaggc caaagctttg   6360
caacttatag taacagcacg aactacacga gggtaagatg tggggttggc caaaatatgt   6420
ggcatgttcc tttcaaagat acttcaaatg cattcagaca tcacacgaaa gttaatgata   6480
agtgaaatga aatttaggaa agactagcta aggaatgtgt gatctattca ttttttttcag   6540
atattacaaa ttctgttgtt ggatcagatt agacccttgg aaatccaatt gtgtctctcc   6600
cttgctaaaa accctctggt gactctccat tacatatagc acaacactgg actttatctg   6660
gcaataagga cactctgtat cctcctactt gatagatttc cttaagaatt tagtgccagg   6720
gaccactttt tctgttctga agggactaat aagctttttc tcaggcaata aggataaatt   6780
aagaggatgt actgggaagt cagactactt tgttcaaatc ttgtcttttc tacttactag   6840
ttgtttggtt atgaaccttt ctgtaccttg tttccctgta caaaatgaaa atgaagacag   6900
catctacctc atggcatttc tatgaagaat aaatgagata atacatgtaa aaacacttag   6960
catggtactt gatacgtaat aagagctcag tgtaattata tctgtaagac tttcagataa   7020
ctggaatcgc cacatttcat tgattccaag atacacattt tttattattg taacttctct   7080
gaaatcagat attttgatgg tgtcccatag tgttttttgt ttcttactat ttcataaaat   7140
aaaggtgcat cttaagaatg atggcatcat agatttgata caaaaaagta cttaggtgac   7200
tcattgccag ctcacagaca tgtttgatgc tcagtccagc tcctgtgtca aaaaaaaaa   7260
agtgccatag agatataaat atgaatgctt aaacacagaa acatactagg tcagaaataa   7320
catcctgaaa aataaaatat tttatttctt cacgtatctt gatagtgacc tcataaagtc   7380
aaagaatcat ttaatcttaa agatattcat atgtggccgg gtgtggtggc tcacacctgt   7440
aatcccagca ctttgggagg ccaaggtggg cagatcacga ggtcaggaga tcaagagcat   7500
cctggctaac atggtgaaac cctgtctcta ctaaaaatac ataaaattag ccgggcatgg   7560
tggcatgcac cagtagtccc agctactcgg gaggctgagg caggagaatc tttagaacct   7620
gggaggtgga ggttgcagtg ggccgaaatc acaccactgc actccagcct gggcaacaga   7680
gcaagactcc atctttatat aaaaaaaaaa aa                                  7712


<210> 5859
<211> 1495
<212> DNA
<213> Homo sapiens

<400> 5859
gtaagactat gatattttta ttgattgtta attatctttt ctttatcgat tatggaagag    60
acctacaaaa tggaattcat gtagagtggt gtggagaata agcaggtggt gattatacat   120
cacatgaggc tgcaggccaa agctttgcaa cttataataa cagcacgaac tacatgaggg   180
taagatgtgg ggttggccaa aatatgtggc atgttccttt caaagatact tcaaatgcat   240
tcagacatca cacgaaagtt aatgataagt aaaatgaaat ttaggataga ctagctaagg   300
aatgtgtgat ctattcattt ttttcagata ttacaaattc tgttgttgga tcagattaga   360
cccttggaaa tccaactgtg cgtctccctt gctaaaaacc ctctggtgac tctccattac   420
atatagcaca cactggact ttatctggca ataaggacat tctgtatcct cctacttgat   480
agatttcctc aagagtttag tgccagggac cacttttct gttctgaagg gactaataag   540
ctttttctca ggcaataagg ataaattaag aggatgtact gggaagtcag actactttgt   600
tcaaatcttg tcttttctac ttactagttg tttggttatg aacctttctg taccttgttt   660
ccctgtacaa aatgaaaatg aagacagcat ctacctcatg gcatttctat gaagaataaa   720
tgagataata caatataaaa acacttagca tggtacttga tacgtaataa gagctcagtg   780
```

```
taattatagc tgtaagactt tcagataact ggaattgcca catttcattg attccaagat    840
acacatttt  tattattgta acttctctga aatcagatat tttgatggtg tcctatagtg    900
ttttttgttt cttactattt cataaaataa aggtgcatct taagaatgat ggcatcatag    960
atttgataca aaaaagtact taggtgactc attgccagct cacagacatg tttgatgctc   1020
agttcagctg ctgtgtcaaa aaaaaaagtg gcatagagat ataaatatga atgtttaaac   1080
acagaaacat actaggtcag aaataacatc ctgaaaaata aaatatttta tttcttcact   1140
tatcttgata gtgacctcat aaagtcaaag aatcatttaa tcgtaaagat attcatatgt   1200
ggccgggtgc ggtggctcac acctgtaatc ccagcacttt gggaggccaa ggtgggcaga   1260
tcacgaggtc aggagatcaa gagcatccta gctaacatgg tgaaaccctg tctctactaa   1320
aaatacataa aattagctgg gcgtggtggc atgcaccagt agtcccagct actcgggagg   1380
ctgaggcagg agaatctcta gaacccggga gacggaggtt gcagtgagcc gaaatcacat   1440
cactgcactc cagcctgggc aacagagcaa gactccatct ttataaaaaa aaaaa         1495


<210> 5860
<211> 7713
<212> DNA
<213> Homo sapiens

<400> 5860
agggatctgc aaagacttgg agaacttcaa tctgaattgg caggagtagc tgatttctct     60
gccacctatc ttcgctgtca actacttctc atcaaggttg gtttgcatcc attccattta    120
tgattgtgtt gctaaaaatg catctttgtg gatccagcag tgtgtgaggc cataagttat    180
aaaacttatg gtcttaatgc aaccacttga caatggagaa atatgtactc tgcagtgtga    240
ttacatttgt ctctaattaa cgaaatatta actcatagga atttgtaaat ttggggagaa    300
ttcttttatc ataatataat tagagcagat tggataatca ttttagttag aatcccaagg    360
ttgtaaatgt tttgtataat ttgattagca aaggaattgt atgaagtttt agactatttt    420
cttaaaatgc tcatttgaag gccaggtgcg gtggctcaca cctgtaatct tagcactttg    480
gcaggccaag gcaggaggat cgcttgagct caagagtttg agaccagcct gggcaacata    540
gcgacacctc atctctacaa gaaaatttaa agtaggcagg tgtggtggtg cattcctgta    600
tatccagcta ctcggctgga gttgggagga ctgcttgagc ctaggaggtc aaggctgcag    660
tgagattgca ctccagcctg gatgacagac caagatcctg tctttaaaga aaacaaacaa    720
acaaacaaac aaaaaaactc actgcacttc atcaaagtta aaaggttgat ttcattgctt    780
ttaaaaagac caacttgctg gcgtttctta ctcagtagtc agctatacac agaattggta    840
cccaagaatc tatttagttt tgctgagtta aaaaacaatt aaatgagttc agtatctttc    900
agcttctgca gcagaatttt actataaatt ttggcacaga atttaggaga gcccttctca    960
cttgacgaac ttttatcttg cccctagttc aaagtgttct ttgttttcaa agtgattaat   1020
gatgtttggc taaagtcaga gtaaatcagg gagtcaaaag ttattttcta ctgtgtgaac   1080
ttgtgctaaa tgttatattt acagttgtgc aggtgtgcct atacatgtaa aggtgcgtat   1140
gtatacttgg cacttaaatg gtccttgtta ggctagatat gttctttcta atgtatatat   1200
ctgtgtaatc accaccatag gcaagtcgta gaacattttc atcactccaa gaagttcctt   1260
cctgcccctt tgcaaggttg tttggctttt ccaagcctct gtgaaacccc aggaattcaa   1320
ggaggccatg gagaagaatc cacttttcta tagtagcaaa atatgggtga ggaaagagaa   1380
gtgattactc ctaaaaagaa cacataattg ttggttattc aatgacaagg ggtgacagtg   1440
taggtgaggg gcccagagcc agaacccaag gcaagtgtgt ttaataacag gaaaaaagct   1500
aaataaattt tggtacagct acctagcagt atattctgta gtcagtaatt ctttatgaag   1560
aattatacaa caacatgaca aaatatttag ggtgtaatgt tatgtaccca aaagaagggg   1620
agccaatcat aatcccaaaa gatagtccag aacatcatag tcctaaactg tttaaattcc   1680
aaaagactaa aatccctaag gtctaaaatc ccaaaaacca cagcccagaa aatatcaaaa   1740
tccccaaaat ataattatgg aagaaataat ttaaaaaatt taaagatatt tattttttaa   1800
aggggaattt atttgagaaa cataaaaaca caacagaata ctttatacat cacttaatat   1860
aataaaacag acaataacaa catacatttt tgcaagcata aacactcagg ttactaatga   1920
cagttgggtg ggtctaacag ttatgagcag atgagccata tttataaaga aattggtcat   1980
aaagggaaag gtataaatgc atatcacttt ggttgttaat tgtgtatacc cagctttta    2040
actgtggtca tctgaaatac tgtgcccaac aacctcaagt cttttgacga gattgatgga   2100
aactgtgctg ggtcaccact gcatatgcag tcacccaaag agcctgagat ctcaagaaat   2160
tttatctttc acaaatgcag atgtacgaaa aggatatctc atttatcgag gaagtttcaa   2220
cattttgtgt acacactcaa tgcttataca caaagtcagt attgtgatga tgcactttca   2280
tggagtcaga tttctgatat ccaagcagca gaacccagag agtccgtttt gctatattgc   2340
ctttttttt ttttggaaaa aaagtctccg tttatcatcc aggctgaata cagtggcgtg   2400
atctcggctc actgctgcaa cctctgcctc ttggggttca agcaattctc ctgtctcagt   2460
```

```
ctcccaagta gctgggatta caggtgtgca ccaccacgcc tggctaattt ttgtattttt    2520
agtagagaca gggttttgcc atgttggtca ggctggtctc catctcctga cctcaggtca    2580
tccacccacc tcggccttcc aaagtgctag gattacaggc atgagccacc actcccagcc    2640
catttcgtct taagtatttg ttctctcctg gccactggct gattggatgg tgcccgccaa    2700
cattgagggc agatagtctc cacttagtac actcagattt atacactaat ctcttctgga    2760
aacactctca tagacacacc ctcaatgtgt aaaacaaaat aatcttttac caggtttctg    2820
atattcctta atctagtcaa gctgatatct aaaattaggt ccacaagtcc accccttgtc    2880
agcttggcac tcatcgcat ctccttaagc catatttaat ttccaaataa agacaataac    2940
atggtaatag ttgtgcctaa catgatacaa ctaacatgat gcaactatcc tgcatacaac    3000
ccaaaacacg ctaatcactt ccccagaatt tggatgtgag gatttcaaca tttgggattg    3060
tatgttttgg gattatgatc taatccccaa acttaattct gctttctgac tacaactgtc    3120
aaaaaacatg catacaagaa atgattagaa gtaaatattc cagaaattcc tatagttttt    3180
atctacagtt tagacctacc actgtttaat ttgatagcca ccagatacat gggactcttg    3240
agcactcgaa aagttgttag tccaaactga gatgtgttat taagtgcaaa atacacactg    3300
gatttctcag acttagtatg aagagaaaat gtaaactaat taataattta aaaaatactg    3360
catggtgaaa tgttaatatc ttggatatac tgggttaaat aaactttttt aaaaaattaa    3420
cttagtcttt gtatcttaaa attaacttac atctttgtaa tttaaaaacc gtggctacga    3480
gaatatttaa aattatatat agctcatgtt atatttctat tggacagtgt tagtctaggt    3540
tttctgtaat gtcatttgat tacatctgta attcagaagg actgagaaaa taagaggctg    3600
tcacagaagt ttgtgcaagg gatgaggtca tgtggatgga taggtgagga gagagatgga    3660
aggtaaaatc atggctctta gtggtggttt tgaatgtaga aagattgaaa gagggagaaa    3720
tctaggaaag ctgcttgatt tctagttgaa tatgttgata aagtggttgg ggcttacaac    3780
ataatgagca taggggaaaa gaaaaaagaa ccacagttaa ggaagaagta tctaggtggc    3840
ttgggttagt ccagtagctc tgggaacaag gagtgcctag agcccggaag ctggcttgcc    3900
tgcgcattct ggtgaagctt tcgtggttcc tgtcctctgc ttccagaagc actgatctgg    3960
gacacagagc ctttgggcca agaattggat caaatgggtg ggaattcatt tagcccaaac    4020
cattggtctc atctttctcc ataatagata cagcttattg ggttaaaaga ataagatcaa    4080
ttgagaagtc ctgttcatgg gagactttca aaggaaaaca aaaatgtaaa tcccaaatga    4140
taggccagtc tttgtgacct cggtattctg ttccctcctg atttgtctgc gtaggccttg    4200
caggaaaagt tgtggaatgt agctgcccct ttgtatttga agcagagtga tttggcctca    4260
gcagcagcga aacaggtaag cttattcaga ccttcccttc aaataggtct ctgtccagta    4320
attgtctggt ccaagacaga gccagaggcc ttcctatagc tctgtctgtg taggccttgc    4380
aggaaaagtt gtggcatgta gctgcccctt tgtatttgaa gcagagtgat ttggcctcag    4440
cagcagcaac acaggtaagc ttattcagac cttcccttca aataggtctc tgtccaggaa    4500
ttgtctggtc caaggcggag ccagaggcct tcctgtagct ctatacctct gctgtggcct    4560
ccctaatttc aggctatgac agaagttagt gatatgagaa ggagcataac taggagacac    4620
agcactcact ttggactcag gggacctggg tcctagtccc aggtcttcct ctgatttgct    4680
gagtgatatt gagcaagtta cttaaattcc ctggattttt tctcttctat aaaatgtggc    4740
agttgggccg ggcgcggtgg ctcacacctg taatcccagc actttgggag gctgagatgg    4800
gcacatcact taaggttagg agtttgagac cggcctggcc aacatggtga aacgctgtct    4860
ctactatcat gaatctttca tctgaaaatg tagcccaact cagttaaggt tgtttatatc    4920
tttagcctgt accatctctt caacgttaaa aggtcctggg tagttcatta agtaggcttt    4980
aattttattt gtctctagtt tatttctttt tagctttgag tcattccct ttgcacctga    5040
gtattgagac ttggtgatct cttgcaggtc aagtcttcca gatagggagt ctgtaaatga    5100
cccaggagga agctaatgat ggtgactgtt attgttacat tacagttcac taaatgattt    5160
caagtctatt agcttaatta accctcataa taatcccatt agataggaat aagtattaag    5220
tctgttttag agatgaggca gttaaggctc agcaaggtta aattcataga gctataggta    5280
atacagtcag gacttgagac cagatcctct gatacccaga atctgttttc tactacagtg    5340
ctgaactctt gtctgatcca gactctttct cagacctggt atgtggctta ttgtagaaga    5400
gtagaattta atgactagaa cccgataatt gagccacatt ggaaggatgg gaccagggag    5460
caataatttg gaaggaaaag aggaaaggaa ttaccattgc tgtataccag atactgtgat    5520
aaacacattg catgctccat ttgatacttg aaacttcatg atattggtac tgtttcttcc    5580
ctgtttacag aaagggattg agacactcat gtaatttaac ttgtcttatt gccaattgta    5640
agagagtctg gagtcatttc cgtgacccta gagtgttcac tgggaggcaa gcacagaagg    5700
aaaagagaag catcattttg atgaaaatcg cttatttgga tagaaccgag caagatcggg    5760
gacttgatct ggggtcatag acaaatgttt tcttgcactt atttctgtcc caaactccct    5820
cagaccaggc ccatggaaca gtctgtcagg ataactaaca tatggttaat agttcctgat    5880
gcttaattct tgaggacttt gtggggattg ggtttccata cataatatat attaatttgt    5940
tcccacagca gagtgggctt catttagggt aagaagcagt gctttcagtg ctttgcagtt    6000
tgcttagtga ttaaactttc ttatcttcac atcatcaact aagatgattt tattaccagg    6060
tcagtcttct ttttaaatag gcaaaataat ttattctctt tttacaaggc atactatact    6120
```

2782

```
aatttctttc aacacttaaa agcactaagg atgtaaaatc tcagttaaga gtttcaccta    6180
aggtcattta acagtagaat tctatgctgc tctcaagtaa gactatgata ttcttattga    6240
tcgttaatta tctttccttt atagattatg gaagagacct acaaaatgga attcatgtac    6300
agtggtgtgg agaataagca ggtggtgatt atacatcaca tgaggctgca ggccaaagct    6360
ttgcaactta tagtaacagc acgaactaca cgagggtaag atgtggggtt ggccaaaata    6420
tgtggcatgt tcctttcaaa gatacttcaa atgcattcag acatcacacg aaagttaatg    6480
ataagtgaaa tgaaatttag gaaagactag ctaaggaatg tgtgatctat tcattttttt    6540
cagatattac aaattctgtt gttggatcag attagaccct tggaaatcca attgtgtctc    6600
tcccttgcta aaaaccctct ggtgactctc cattacatat agcacaacac tggactttat    6660
ctggcaataa ggacactctg tatcctccta cttgatagat ttccttaaga atttagtgcc    6720
agggaccact ttttctgttc tgaagggact aataagcttt ttctcaggca ataaggataa    6780
attaagagga tgtactggga agtcagacta ctttgttcaa atcttgtctt ttctacttac    6840
tagttgtttg gttatgaacc tttctgtacc ttgtttccct gtacaaatg aaaatgaaga    6900
cagcatctac ctcatggcat ttctatgaag aataaatgag ataatacatg taaaaacact    6960
tagcatggta cttgatacgt aataagagct cagtgtaatt atatctgtaa gactttcaga    7020
taactggaat tgccacattt cattgattcc aagatacaca ttttttatta ttgtaacttc    7080
tctgaaatca gatattttga tggtgtccca tagtgttttt tgtttcttac tatttcataa    7140
aataaaggtg catcttaaga atgatggcat catagatttg atacaaaaaa gtacttaggt    7200
gactcattgc cagctcacag acatgtttga tgctcagtcc agctcctgtg tccaaaaaaa    7260
aaaagtgcca tagagatata aatatgaatg cttaaacaca gaaacatact aggtcagaaa    7320
taacatcctg aaaaataaaa tattttattt cttcacgtat cttgatagtg acctcataaa    7380
gtcaaagaat catttaatct taaagatatt catatgtggc cgggtgtggt ggctcacacc    7440
tgtaatccca gcactttggg aggccaaggt gggcagatca cgaggtcagg agatcaagag    7500
catcctggct aacatggtga aaccctgtct ctactaaaaa tacataaaat tagccgggca    7560
tggtggcatg caccagtagt cccagctact cgggaggctg aggcaggaga atctttagaa    7620
cctgggaggt ggaggttgca gtgggccgaa atcacaccac tgcactccag cctgggcgat    7680
agaacgagaa tctgtctcca aaaaaaaaaa aaa                                 7713


<210> 5861
<211> 1492
<212> DNA
<213> Homo sapiens

<400> 5861
gtaagactat gatattttta ttgattgtta attatctttt ctttatcgat tatggaagag      60
acctacaaaa tggaattcat gtagagtggt gtggagaata agcaggtggt gattatacat     120
cacatgaggc tgcaggccaa agctttgcaa cttataataa cagcacgaac tacacgaggg     180
taagatgtgg ggttggccaa aatatgtggc atgttccttt caaagatact tcgaatgcat     240
tcagacatca cacgaaagtt aatgataagt aaaatgaaat ttaggaaaga ctagctaagg     300
aatgtgtgat ctattcattt ttttcagata ttacaaattc tgttgttgga tcagattaga     360
cccttggaaa tccaattgtg cgtctccctt gctgaaaacc ctctggtgac tctccattac     420
atatagcaca acactggact ttatctggca ataaggacat tctgtatcct cctacttgat     480
agatttcctc aagaatttag tgccagggac cacttttct gttctgaagg gactaataag     540
ctttttctca ggcaataagg ataaattaag aggatgtact gggaagtcag actactttgt     600
tcaaatcttg tcttttctac ttactagttg tttggttatg aacctttctg taccttgttt     660
ccctgtacaa aatgaaaatg aagacagcat ctacctcatg gcatttctat gaagaataaa     720
tgagataata caatataaaa acacttagca tggtacttga tacgtaataa gagctcagta     780
taattatagc tgtaagactt tcagataact ggaattgcca catttcattg attccaagat     840
acacattttt tattattgta acttctctga aatcagatat tttgatggtg ttccatagtg     900
ttttttgttt cttactattt cataaaataa aggtgcatct taagaatgat ggcatcatag     960
atttgataca aaaaagtact taggtgactc attgccagct cacagacatg tttgatgctc    1020
agtccagctg ctgtgtcaaa aaaagtggc atagagatat aaatatgaat gtttaaacac    1080
agaaacatac taggtcagaa ataacatcct gaaaaataaa atattttatt tcttcactta    1140
tcttgatagt gacctcataa agtcaaagaa tcatttaatc gtaaagatat tcatatgtgg    1200
ccgggtgcgg tggctcacac ctgtaatccc agcactttgg gaggccaagg tgggcagatc    1260
acgaggtcag gagatcaaga gcatcctagc taacatggtg aaaccctgtc tctactaaaa    1320
atacataaaa ttagctgggc gtggtggcat gcaccagtag tcccagctac tcgggaggct    1380
gaggcaggag aatctctaga acccgggaga tggaggttgc agtgagccga atcacatca    1440
ctgcactcca gcctgggcaa cagagcaaga ctcctcttta taaaaaaaaa aa            1492
```


2783

<210> 5862
<211> 4403
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (1649)
<223> n equals a,t,g, or c

<220>
<221> SITE
<222> (1669)
<223> n equals a,t,g, or c

<400> 5862
```
tagttttaaa aacttaaaga tatttatttt ttaaagggga acttatttga gaaacataaa      60
aacacaacag aatactttat acaccactta atataataaa acagacaata ataacataca     120
tttttgcaag cataaacact caggttacta ataacatttg ggtgggtcta acagttatga     180
gcagatgagc catatttata aagaaattgg tcataaaggg aaaggtataa atgcatatca     240
ctttggttgt taattgtgta tacccagctt tttaactctg gtcatctgaa atactgtgcc     300
caacaacctc aagtcttttg atgagattga tggaaactgt gctgggtcac cactgcatat     360
gcagtcaccc aaagagctga gatctcaaga aattttatct ttcacaaatg cagatgtacg     420
aaaaggatat ctcatttatc gaggaagttt caacatttta tgtacacact caatgcttat     480
acacaaagtc agtattgtga taatgcactt tcatggagtc agatttctga tatccaagca     540
gcagaaccca gagagtccgt tttgctattt tgcgtttttt tgttttttgt tttttttgt     600
tttttttttt tttttgaga cagagtctca gcttatcacc caggctgaat acagtggcgt     660
gatctcggct cactgctgcg acctctgcct cttgggttca agcaattctc ctgtctcagc     720
ctcccaagta gctgggatta caggtgtgca ccaccacgcc tggctaattt ttgtattttt     780
agcagagaca gggttttgcc atgttggtca ggctggtctc gaactcctga cctcaggtca     840
tccacccacc tcgaccttcc aaagtgctag gattacaggc atgagccacc gatcccagcc     900
cattttgtct taagtatttg ttctctcctg gccactggct gattggatgg tgcccgccaa     960
cattgagggc agatagtctc cacctagtac actcagattt atacactaat ctcttctgga    1020
aacactctca tagacacacc ctcaatgtgt aaaacaaaat aatgttttac caggtttctg    1080
atattcctta atctggtcaa gctgatacct aaaattaggt ccacaagtcc acccccttgtc    1140
agcttggcac tcatacgcat ctccttaagc catatttaat ttccaaataa agacaataac    1200
atggtaatag ttgtgcctaa catgatacaa ctgacatgat gcaactatcc tgcatgcaac    1260
ccaaaacaca ctaatcactt ccccagaatt tggatgtcag gatttcaaca tttgtgattg    1320
tatgttttgg gattatgatc taatccccaa acttaattct gctttctgac tacaactgtc    1380
aaaaaacatg catacaagaa atgattagaa gtaaatattc cagaaattcc tatagtttat    1440
ctgtagttta gacctaccac tgtttgatag ccaccagata catgggactc ttgagcactt    1500
gaaaagttgt tagtctaaac tgagatgtgt tattaagtgc aaaatacaca ctggatttct    1560
cagacttagt atgaaaagaa aatgtaaact atctaattaa taatttaaac gatactgcgt    1620
ggtgtactgt tatattcttg gatatactng gttaaataaa ctttttaang aaattaactt    1680
agttctttgt atcttcaaaa ttaacttaca tctttgtaat ttaaaactgt ggctatgaga    1740
atatttaaat taatatatag ctcatgttat atttctattg gacagtgtta gtctaggttt    1800
tctgtaatgt catttgatta catctgtaat tcagaaggac tgagaaaata agaggctgtc    1860
acagaagttt gtgcaagaga tgaggtcatg tggatggata ggtgaggaga gagatggaag    1920
gtaaaatcgt ggctcttagt ggtggttttg aatgtagaag attgaaagag ggagaaatct    1980
aggaaagctg cttgatttct agttgaatat gttggtaaag tggttggggc ttataacata    2040
atgagcatag gggaaaagaa aaaagaacca cagtcaagga agaagtatct aggtggcttg    2100
ggttagtcca gtggctctgg gaacaaggag tgcctagagc ccggaagctg gcttgcctgc    2160
gcattctggt gaaggtttca tggttcctgt cctctgcttc cagaagcact gatctgggac    2220
acagagcctt tgggccaaga attggatcaa atggatggga attcatttag cccaaaccat    2280
tagtctcatc tttctccata atagatacag cttattgggt taaaagaata agattaattg    2340
agaagtcctg ttcatggtag actttcaaag gaaacaaaa atgtaaattc caaatgatat    2400
gccagtcttt gtgacgtcgg tattctgttc cctcctgatt tgtctgtgta ggccttgcag    2460
gaaaagtcgt ggaatgtagc tgcccccttcg tatttgaagc agagtgattt ggcctcagca    2520
gcagcaaaac aggtaagctt attcagacct tcccttcaaa caggtctctg tccaggaatt    2580
gtctggtcca aggcagagca gagcgcttcc tatagctctg tctctgtagg ccttgcagga    2640
```

2784

```
aaagttgtgg catgtagctg cccctttgta tttgaagcag agtgatttgg cctcagcagc    2700
agcaacacag gtaagcttat tcagaccttc ccttcaaata ggtctctgtc caggaattgt    2760
ctggtccaag gcggcagacg gccttcctgt agctctgtac ctctgctgtg gcctccctaa    2820
ttttaggcta tgacagaagt tagtgatatg agaaggagca taactagggg acgcagcact    2880
cactgtggac tcaggggacc tgggtcctag tcccaggtct tcctctgata tgctgagtga    2940
tattgagcaa gttacttaaa ttccctggat tttttctctt ctataaaatg tggcagttgg    3000
gccgggtgtg gtggctcaca cctgtaatcc cagcactttg ggaggctgag atgggcgcat    3060
cacttaaggt taggagtttg agaccagcct ggccaacatg gtgaaacgct gtcgctactg    3120
tcatgaatct ttcatctgaa aatgtagccc aactcagtta aggttgttta tatctttagc    3180
ctgtaccatc tcttcaacgt taaaaggtcc tgggtagttc attaagtagg ctttaatttt    3240
atttgtctct agtttatttc tttttagctt tgagccgttc ccctttgcac ctaagtattg    3300
agacttggtg atctctggca ggtcaagtct tccagatagg gagtctgtaa atgacccagg    3360
aggaagctaa tgatggtgat tgttattgtt acattacagt tcactaaatg atttcaagtc    3420
tattagctta attaaccctc ataacaatcc cattagatag gaataagtat taagtctatt    3480
ttagagatga ggcagttaag gctcagcaag gttaaattca tagagctata ggtaatacag    3540
tcaggacttg agaccagatc ctctgatacc cagaatctgt tttctactac agtgctgaac    3600
tcttgtctga tccagactct ttctcagacc tggtatgtgg cttattgtag aagagtagca    3660
tttaatgact agaacccgat aattgagcca cattggaagg atgggatcag ggagcaataa    3720
tttggaagga aaagaggaaa ggaattacca ttgctgtata ccagatactg tgataaacac    3780
attgcatgct ccatttgata cttgaaactt catgatattg gtactgtttc ttccctgttt    3840
acagaaaggg attgagacac tcatgtaatt taacttgtct tattgccaat tgtaagagag    3900
tctggagtcg tttccgtgac cctagagtgt tcactgggag gcaagcacag aagaaaaaga    3960
gaagcatcat tttgatgaaa atcgcttatt tggatggaac taagcaagat cggggacttg    4020
atctggggtc atagacaatg ttttcttgca cttatttcca tcccaaactc cctcagacca    4080
ggcccatgga acagtctgtc aggataacta acatatggtt aatagttcct gatgcttaat    4140
tcttgaggac tttgtgggga ttgggtttcc atacataata tatattaatt tgttcccaca    4200
gcagagtggg cttcatttag ggtaagaagc agtgctttca gtgctttgca gtttgcttag    4260
tgattaaact ttcttatctt cacatcatca actaagatga ttttattacc aggtcagtct    4320
tcttttttaaa taggcaaaat aatttattct ctttttacaa ggcatactat actaatttct    4380
ttccacactt aaaagcatag gga                                             4403


<210> 5863
<211> 389
<212> DNA
<213> Homo sapiens


<400> 5863
tttttctttt cttaagtttt gctagattgt tttcttttgt cctccagggg tttgaaagtt     60
atgcaccgta attctaaaca cttcaagtga gaggcagtag aacatactgg ttaagagggc    120
tgtggtgcca cactgcttgg gttcacatct tgactttacc atttgcaaac tgagtaaccc    180
ttggacaagt tacttaacac ttcttggcct cagtttgttc ccataagtta aactgagata    240
atagtagtac ctgtctcttc ctcacagggg tattgtaagg gttattgaat tattatatgc    300
aaaaccattt atttatttta tttatttatg agacagagtc ttgctctatc acccaggctg    360
gagtgcagtg gcacgatctc aactcactg                                      389


<210> 5864
<211> 952
<212> DNA
<213> Homo sapiens


<400> 5864
aacaaagatg aattgagcat taaaggatgg tagcttcttg aactacctct gtgtcagcaa     60
aggggatatg ggagttagag tttgggaact accagcccaa cctactgggc tccacctgtt    120
atgtttctgc acaaggacaa tgcttttagc actgaagctc ccaaagacaa agcattcctt    180
tcctgaccca tatacctcta tcctttcatt cattcatcca gcatttactg agaacttaac    240
tctgtgccaa gtctcagtat ttctaagcag tagcaatact gagatgaacc aaatgttcca    300
tggagtttca ttcaggtaag gttagtgaaa atgtgcaaat atttgtagta ggatgagaag    360
aaatggagtt gaggatctca gaagacagag tgaataaacc caagtgggaa actgtcatgg    420
aagacatgct gtttttaactg ggtctcgaag tatgaaaatg aataggcctt gaatgcagtg    480
```

```
gttgtagaag gggtaccttc taatggtaga gatggtatag gaaaagagct gttgaaatta    540
tcaaagagat aacaaatggg cgagagaaag aagcgttttc cagttcagga agatgagacg    600
ttatggagat aggaatgaaa tttatatatt tatgaaaggc atgggggccg ggcacagtgg    660
ctcatgcctg taatcccagc actttgggag gccaaggagg gaggattacc tgaggtcagg    720
agttcaagac cagcctggct aaggtggtga aactttgtct ctactaaaaa tacaaaaatt    780
agccgggtgt ggtgacatgc gcctgtaatt ccagctactc aggaggctga ggcaggagaa    840
tcacttgaac ccaggaagtg gaggttgcag tgagctgaga ttgtgccact acactccagc    900
ctgggcaaca agagcgaaac tctgtctcaa aaaaaggaa aaagaaaaaa aa    952


<210> 5865
<211> 1865
<212> DNA
<213> Homo sapiens

<400> 5865
ctttcaaagg aaaacaaaat gtaaattcca aatgatatgc cagtctttgt gacgtcggta     60
ttctgttccc tcctgatttg tctgtgtagg ccttgcagga aaagtcgtgg aatgtagctg    120
cccccttcgta tttgaagcag agtgatttgg cctcagcagc agcgaaacag gtaagcttat   180
tcagaccttc ccttcaaaca ggtctctgtc caggaattgt ctggtccaag gcggagccag    240
aggccttcct gtagctctgt acctctgctg tggcctccct aatttttaggc tatgacagaa   300
gttagtgata tgagaaggag cataactagg ggacgcagca ctcactgtgg actcagggga    360
cctgggtcct agtcccaggt cttcctctga tttgctgagt gatattgagc aagttactta    420
aattccctag attttttctc ttctataaaa tgtggcagtt gggccaggtg cggtggctca    480
cacctgtaat cccagcactt tgggaggctg agatgggcgc atcacttaag gttaggagtt    540
tgagaccagc ctggccaaca tggtgaaacg ctgtcgctac tgtcatgaat ctttcatctg    600
aaaatgtagc ccaactcagt taaggttgtt tatatcttta gcctgtacca tctcttcaac    660
gttaaaaggt cctgggtagt tcattaagta ggctttaatt ttatttgtct ctagtttatt    720
tctttttagc tttgagccgt tccccttttgc acctaagtat tgagacttgg tgatctcttg    780
caggtcaagt cttccaaata ggaagtctgt aaatgaccca ggagaaagct aatgatggtg    840
actgttattg ttacattaca gttcactaaa tgatttcaag tctattagct taattaaccc    900
tcataataat cccattagat aggaataagt attaagtcta ttttagagat gaggcagtta    960
aggctcagca aggttaaatt catagagcta taggtaatac agtcaggact tgagaccaga   1020
tcctctgata cccagaatct gttttctact acagtgctga actcttatct gatccagact   1080
ctttctcaga cctggtatgt ggcttattgt agaagagtag catttaatga ctagaacccg   1140
ataattgagc cacattggaa ggatgggacc agggagcaat aatttggaag gaaaagagga   1200
aaggaattac cattgctgta taccagatac tgtgataaac acattgcatg ctccatttga   1260
tacttgaaac ttcatgatat tggtactgtt cttccctgt ttacagaaag ggattgagac    1320
agtcatgtaa tttaacttgt cttattgcca attgtaagag agtctggagt cgtttccgtg   1380
accctagagt gttcactggg aggcaagcac agaagaaaaa gagaagcatc attttgatga   1440
aaatcgctta tttggatgga accaagcaag atcggggact tgatctgggg tcatagacaa   1500
tgttttcttg cacttatttc cgtcccaaac tccctcagac caggcccatg gaacagtctg   1560
tcaggataac taacatatgg ttaatagttc ctgatgctta attcttgagg actttgtggg   1620
gattgggttt ccatacataa tatatattaa tttgttccca cagcagagtg ggcttcattt   1680
agggtaagaa gcagtgcttt cagtgctttg cagtttgctt agtgattaaa ctttcttatc   1740
ttcacatcat caactaagat gattttatta ccaggtcagt cttcttttta aataggcaaa   1800
ataatttatt ctcttttttac aaggcatact atactaattt ctttccacac ttaaaagcat   1860
aggga                                                             1865


<210> 5866
<211> 1213
<212> DNA
<213> Homo sapiens

<400> 5866
cacgcctggc taatttttgt attttttagta gagacagagt ttcatcatgt tggtcaggct     60
ggtcttgaac ttctgacctc aaatgatcca cctgccccag cctcccaaag tgctgggatt    120
gcaggcatga gccaccacac ctgggtacac atttttatttt ttatcatggc cctgtgcatt   180
gagtgcattg ttcttgccca gttttcagga agcagaaaga aaatacaggc aagaactgca    240
ggactttgaa ttatctgcct agatcattct aagaattgaa ttgattatgc ataattggaa    300
```

2786

```
ctccttttcc tgtagattaa ctgaggcatg aggtggactg tctcctctgg ttactggaag   360
aggacttcct gattgcctta ctttgaggca gccagggtgg gggtcctccc gagagcatgg   420
ggagggtccc aggggcccca cttcagggtt gcctttcatg aaaaacttgt caaacctttg   480
tacagatgtc ttttaataa cactcactgc tttgcagatc caagtttgga ctctgggctg   540
ctccagtagt ttgttggctc tgtttatggt agcttaagtg caaggttttt atgtagccag   600
taaggtctgt cccatggtct tgagtgaaat ggggagcagg aaaacagaaa gaaaggaaag   660
tgccacgttg tagcagggga gggtcaggag accaccttac ctgggcattg tggggtgcag   720
gggtgccagc agagcaggag cttacctggt gggcaggggc actgccacat cttgggaggg   780
agtatgtgtg tagtttgaaa aagcttactt aatagtttag atttggaaaa tggaaaaaac   840
atccttttga aatgttaaag atcgttaaag aagtttgtga tattttcata aatcaaaatg   900
tggcatatgt tttaaaaaat tgagaatagc tggacacagt ggcttgctcc cataatccca   960
gtactttggg aggctgaggt gggaggggttg cttcaggctg ggaattcaag accagcctgg  1020
gcaacacagt gagaccccat ctctacaaca aaattttaaa aattagctgg gcctggtagt  1080
gctcctgtgg tgccagctgc tcaggaggct gaggtgggac ggggcctgga aagttgagac  1140
tgcagtgaac tgggatcgtg ctactgtact ccagcctggg caacagagca agaccctgtc  1200
tccaaaaaaa aaa                                                      1213


<210> 5867
<211> 883
<212> DNA
<213> Homo sapiens

<400> 5867
cgcacattct cttgtccctg cccttgacca tgggtggcat cttggttttc ttgcagtctg    60
catcactgtt tgctttgtct ttggagagag aattttattg agggaggaaa tgttccaggg   120
tggatcagat tagcatctct gtgaactttg taccagggta gcgaaggaag tgccaacccc   180
atcttttttt caagaacaga acaccctggg tgcttcaagc aaagtctggg aagcaaccca   240
gtgggaggga agacagtgct cttttctctg ggtccccaca ctcaggtcag gcgatgcgag   300
ttgttacact tgttttcggt cacgctcggg gtgctgcggt tcacgtttct tttctattat   360
ggagttactg tcaccaggct cttactgttt taaataaagt cattttgctt acgctcaaat   420
aattacactc atccaaggca ttcttccctt agggttgttg tttatagtta tttgaaaagc   480
agggacatac tgagtctaac ttgtagatct agtaaatgct gatatcaaaa gtgatgttaa   540
caactattcc taagactgga cctggttggg gctgggcgcg gtggctcaca cctgtaatcc   600
cagcactttg ggaggcctaa gcaggcggat catgaggtca ggagatcgag accgtcctag   660
ctaacacagt gaaaccccgt ctctactaaa aatacaaaaa aattagccag gcgtggtggc   720
gggcgcctgt agtcccagct actctggagg ctgaggcagg agaatggcgt gaacccggga   780
ggcggagctt gtagtgagcc gagatcgcac cactgcactc cagcctgggc gacagagcaa   840
gactccgtct caaaaaaaaa aaaaaaaaaa aaaccagac tgg                      883


<210> 5868
<211> 1490
<212> DNA
<213> Homo sapiens

<400> 5868
gttgtaactc ttggtccttc tctctctcct tttctcttcc cttccttccc cttccatctt    60
tctttccaca tgtcctttcc ttattggctc ttttacctcc tacttttctc actccctatc   120
agggatattt tggggggggga tggtaaaggg tgggctaagg aacagaccct gggattaggg   180
ccttaagggc tctgagagga gtctaccttg ccttcttatg ggaagggaga ccctaaaaaa   240
ctttctcctc tttgtcctcc tttttctccc ccactctgag gtttccccaa gagaaccaga   300
ttggcaggga gaagcattgt ggggcaattg ttcctccttg acaatgtagc aataaataga   360
tgctgccaag ggcagaaaat ggggaggtta gctcagagca gagtagtctc tagagaaagg   420
aagaatcctc aacggcaccc tggggtgcta gctccttttt agaatgtcag cagagctgag   480
attaatatct gggcttttcc tgaactattc tggttattga gcccttcctg ttagacctac   540
cgcctcccac ctcttctgtg tctgctgtgt atttggtgac acttcataag gactagtccc   600
ttctggggta tcagagcctt agggtgcccc catccccttc cccagtcaac tgtggcacct   660
gtaacctccc ggaacatgaa ggactatgct ctgaggctat actctgtgcc catgagagca   720
gagactggaa gggcaagacc aggtgctaag gaggggagag ggggcatcct gtctctctcc   780
agaccatcac tgcactttaa ccagggtctt aggtacaaaa tcctactttt cagagccttc   840
```

2787

```
cagctctgga acctcaaaca tcctcatgct ctctcccagc tccttttgca taaaaaaaaa    900
agtaaagaaa aagaaaaaaa aatacacaca cactgaaacc cacatggaga aaagaggtgt    960
ttccttttat attgctattc aaaatcaata ccaccaacaa aatatttcta agtagacact   1020
tttccagacc tttgtttttt tgtgtcagtg tccaagctgc agataggatt ttgtaatact   1080
tctggcagct tctttccttg tgtacataat atatatatat acatatatat atatattttt   1140
aatcagaagt tatgaagaac aaaaagaaaa aataaacaca gaagcaagtg caataccacc   1200
tctcttctcc ctctctccta gggtttcctt tgtagcctat gtttggtgtc tcttttgacc   1260
tttacccctt cacctcctcc tctcttcttc tgattcccct cccccccttt tttaaagagt   1320
ttttctcctt tctcaagggg agttaaacta gcttttgaga cttattgcaa agcattttgt   1380
atatgtaata tattgtaagt aaatatttgt gtaacggaga tatactactg taagttttgt   1440
actgtactgg ctgaaagtct gttataaata aacatgagta atttaacacc               1490
```

<210> 5869
<211> 1490
<212> DNA
<213> Homo sapiens

<400> 5869

```
gttgtaactc ttggtccttc tctctctcct tttctcttcc cttccttccc cttccatctt     60
tctttccaca tgtcctttcc ttattggctc ttttacctcc tacttttctc actccctatc    120
agggatattt tggggggggga tggtaaaggg tgggctaagg aacagaccct gggattaggg    180
ccttaagggc tctgagagga gtctaccttg ccttcttatg ggaagggaga ccctaaaaaa    240
ctttctcctc tttgtcctcc tttttctccc ccactctgag gtttccccaa gagaaccaga    300
ttggcaggga gaagcattgt ggggcaattg ttcctccttg acaatgtagc aataaataga    360
tgctgccaag ggcagaaaat ggggaggtta gctcagagca gagtagtctc tagagaaagg    420
aagaatcctc aacggcaccc tggggtgcta gctccttttt agaatgtcag cagagctgag    480
attaatatct gggcttttcc tgaactattc tggttattga gcccttcctg ttagacctac    540
cgcctcccac ctcttctgtg tctgctgtgt atttggtgac acttcataag gactagtccc    600
ttctggggta tcagagcctt agggtgcccc catccccttc cccagtcaac tgtggcacct    660
gtaacctccc ggaacatgaa ggactatgct ctgaggctat actctgtgcc catgagagca    720
gagactggaa gggcaagacc aggtgctaag gaggggagag ggggcatcct gtctctctcc    780
agaccatcac tgcactttaa ccagggtctt aggtacaaaa tcctactttt cagagccttc    840
cagctctgga acctcaaaca tcctcatgct ctctcccagc tccttttgca taaaaaaaaa    900
agtaaagaaa aagaaaaaaa aatacacaca cactgaaacc cacatggaga aaagaggtgt    960
ttccttttat attgctattc aaaatcaata ccaccaacaa aatatttcta agtagacact   1020
tttccagacc tttgtttttt tgtgtcagtg tccaagctgc agataggatt ttgtaatact   1080
tctggcagct tctttccttg tgtacataat atatatatat acatatatat atatattttt   1140
aatcagaagt tatgaagaac aaaaagaaaa aataaacaca gaagcaagtg caataccacc   1200
tctcttctcc ctctctccta gggtttcctt tgtagcctat gtttggtgtc tcttttgacc   1260
tttacccctt cacctcctcc tctcttcttc tgattcccct cccccccttt tttaaagagt   1320
ttttctcctt tctcaagggg agttaaacta gcttttgaga cttattgcaa agcattttgt   1380
atatgtaata tattgtaagt aaatatttgt gtaacggaga tatactactg taagttttgt   1440
actgtactgg ctgaaagtct gttataaata aacatgagta atttaacacc               1490
```

<210> 5870
<211> 1491
<212> DNA
<213> Homo sapiens

<400> 5870

```
gttgtaactc ttggtccttc tctctctcct tttctcttcc cttccttccc cttccatctt     60
tctttccaca tgtcctttcc ttattggctc ttttacctcc tacttttctc actccctatc    120
agggatattt tggggggggga tggtaaaggg tgggctaagg aacagaccct gggattaggg    180
ccttaagggc tctgagagga gtctaccttg ccttcttatg ggaagggaga ccctaaaaaa    240
ctttctcctc tttgtcctcc tttttctccc ccactctgag gtttccccaa gagaaccaga    300
ttggcaggga gaagcattgt ggggcaattg ttcctccttg acaatgtagc aataaataga    360
tgctgccaag ggcagaaaat ggggaggtta gctcagagca gagtagtctc tagagaaagg    420
aagaatcctc aacggcaccc tggggtgcta gctccttttt agaatgtcag cagagctgag    480
attaatatct gggcttttcc tgaactattc tggttattga gcccttcctg ttagacctac    540
```

```
cgcctcccac ctcttctgtg tctgctgtgt atttggtgac acttcataag gactagtccc    600
ttctggggta tcagagcctt agggtgcccc catccccttc cccagtcaac tgtggcacct    660
gtaacctccc ggaacatgaa ggactatgct ctgaggctat actctgtgcc catgagagca    720
gagactggaa gggcaagacc aggtgctaag gaggggagag ggggcatcct gtctctctcc    780
agaccatcac tgcactttaa ccagggtctt aggtacaaaa tcctactttt cagagccttc    840
cagctctgga acctcaaaca tcctcatgct ctctcccagc tccttttgca taaaaaaaaa    900
agtaaagaaa aagaaaaaaa aatacacaca cactgaaacc cacatggaga aaagaggtgt    960
ttccttttat attgctattc aaaatcaata ccaccaacaa aatatttcta agtagacact   1020
tttccagacc tttgtttttt tgtgtcagtg tccaagctgc agataggatt ttgtaatact   1080
tctggcagct tctttccttg tgtacataat atatatatat acatatatat atatatttt    1140
aatcagaagt tatgaagaac aaaaagaaaa aataaacaca gaagcaagtg caataccacc   1200
tctcttctcc ctctctcgta gggtttcctt tgtagcatat gtttggtgtc tcttttgacc   1260
tttacccctt cacctcctcc tctcttcttc tgattcccct cccccccctt ttttaaagag   1320
tttttctcct ttctcaaggg gagttaaact agcttttgag acttattgca aagcattttg   1380
tatatgtaat atattgtaag taaatatttg tgtaacggag atatactact gtaagttttg   1440
tactgtactg gctgaaagtc tgttataaat aaacatgagt aatttaacac c            1491


<210> 5871
<211> 140
<212> DNA
<213> Homo sapiens


<400> 5871
cctgtagtgc cagctacttg ggaggctgag gcagaagaat cgcttgaacc caggaggcgg     60
aggttgcagt gagccaagat cgcaccactg cactccagcc taggcaacag agcaagactc    120
catctgaaaa aaaaaaaaaa                                                140


<210> 5872
<211> 832
<212> DNA
<213> Homo sapiens


<400> 5872
taggatgtga tagatctggt ccctctcctt gaactacccc tccacacgct ctagtccctt     60
caacctaccg gtctattaag tggtggcttt tctctccttg gagtgcccca attttatatt    120
ctcaggggcc aaggctaggt ctgcaaccct ctgtctctga cagattggga gccacaggtg    180
cctaattggg aaccagggca tgggaaagga gtgggtcaaa attcttctct ttctcctcca    240
cctctcaaac ttcttcacta tagtgacctt cctaggctct caggggctcc ttcagtcccc    300
atcctatgag aaactagtgg gttgctgcct gatgacaagg ggttgtttca gcccctcagt    360
catgctgcct tctgctgctc cctcccagca ggattcaccc tctcattccc gggctcctgg    420
gccctgttct taggatcagt ggcagggaga aacgggtatc tcttttctct cttctaattt    480
tcagtataac caaaaattat cccagcatga gcacgggcac gtgcccttca ccccattcca    540
cccttgttcc agcaagactg ggatgggtac aactgaactg gggtcttcct ttactacccc    600
cttctacact cagctcccag acacagggta ggaggggga ctgctggcta ctgcagagac    660
ccttggctat ttgagtaacc taggattagt gagaaggggc agaaggagat acaactccac    720
tgcaagtgga ggtttctttc tacaagagtt ttctgcccaa ggccacagcc atcccactct    780
ctgcttcctt gagattcaaa ccaaaggctg tttttctatg tttaaagaaa aa            832


<210> 5873
<211> 140
<212> DNA
<213> Homo sapiens


<400> 5873
cctgtagtgc cagctacttg ggaggctgag gcagaagaat cgcttgaacc caggaggcgg     60
aggttgcagt gagccaagat cgcaccactg cactccagcc taggcaacag agcaagactc    120
catctgaaaa aaaaaaaaaa                                                140
```

<210> 5874
<211> 832
<212> DNA
<213> Homo sapiens

<400> 5874
```
taggatgtga tagatctggt ccctctcctt gaactacccc tccacacgct ctagtccctt       60
caacctaccg gtctattaag tggtggcttt tctctccttg gagtgcccca attttatatt      120
ctcaggggcc aaggctaggt ctgcaaccct ctgtctctga cagattggga gccacaggtg      180
cctaattggg aaccagggca tgggaaagga gtgggtcaaa attcttctct ttctcctcca      240
cctctcaaac ttcttcacta tagtgacctt cctaggctct caggggctcc ttcagtcccc      300
atcctatgag aaactagtgg gttgctgcct gatgacaagg ggttgtttca gccctcagt      360
catgctgcct tctgctgctc cctcccagca ggattcaccc tctcattccc gggctcctgg      420
gccctgttct taggatcagt ggcagggaga aacgggtatc tcttttctct cttctaattt      480
tcagtataac caaaaattat cccagcatga gcacgggcac gtgcccttca ccccattcca      540
cccttgttcc agcaagactg ggatgggtac aactgaactg gggtcttcct ttactacccc      600
cttctacact cagctcccag acacagggta ggagggggga ctgctggcta ctgcagagac      660
ccttggctat ttgagtaacc taggattagt gagaaggggc agaaggagat acaactccac      720
tgcaagtgga ggtttctttc tacaagagtt ttctgcccaa ggccacagcc atcccactct      780
ctgcttcctt gagattcaaa ccaaaggctg tttttctatg tttaaagaaa aa             832
```

<210> 5875
<211> 832
<212> DNA
<213> Homo sapiens

<400> 5875
```
taggatgtga tagatctggt ccctctcctt gaactacccc tccacacgct ctagtccctt       60
caacctaccg gtctattaag tggtggcttt tctctccttg gagtgcccca attttatatt      120
ctcaggggcc aaggctaggt ctgcaaccct ctgtctctga cagattggga gccacaggtg      180
cctaattggg aaccagggca tgggaaagga gtgggtcaaa attcttctct ttctcctcca      240
cctctcaaac ttcttcacta tagtgacctt cctaggctct caggggctcc ttcagtcccc      300
atcctatgag aaactagtgg gttgctgcct gatgacaagg ggttgtttca gccctcagt      360
catgctgcct tctgctgctc cctcccagca ggattcaccc tctcattccc gggctcctgg      420
gccctgttct taggatcagt ggcagggaga aacgggtatc tcttttctct cttctaattt      480
tcagtataac caaaaattat cccagcatga gcacgggcac gtgcccttca ccccattcca      540
cccttgttcc agcaagactg ggatgggtac aactgaactg gggtcttcct ttactacccc      600
cttctacact cagctcccag acacagggta ggagggggga ctgctggcta ctgcagagac      660
ccttggctat ttgagtaacc taggattagt gagaaggggc agaaggagat acaactccac      720
tgcaagtgga ggtttctttc tacaagagtt ttctgcccaa ggccacagcc atcccactct      780
ctgcttcctt gagattcaaa ccaaaggctg tttttctatg tttaaagaaa aa             832
```

<210> 5876
<211> 140
<212> DNA
<213> Homo sapiens

<400> 5876
```
cctgtagtgc cagctacttg ggaggctgag gcagaagaat cgcttgaacc caggaggcgg       60
aggttgcagt gagccaagat cgcaccactg cactccagcc taggcaacag agcaagactc      120
catctgaaaa aaaaaaaaaa                                                   140
```

<210> 5877
<211> 4401
<212> DNA
<213> Homo sapiens

2790

```
gccaccaaac atctcccacc gagttatttg gtgggatttg cagggacttt tctgggagaa    60
cttaaaggcc catagtaact gcgaatgaag caatatacca ctaacctgca gaaaaacaca   120
aacaaaaaca gactcccact gtctccagaa gtcgtggcct tccagaacag tctgcccctc   180
aaggaagggt ggggcaggca gtaccccaa gcaggctgct cccagaggtg gggaaccctt    240
cataggaaat ccccacccc gtccacccca gagaccctgc ccttccaccc ggaggccaaa    300
ggccaactgt actcccaaag gcatgggaga aggttggcga gaagacccct gactaccaca   360
tccttgtgtt tgcgtgtaga gacgggggat agtgagaacc taagccccat cgtagcacag   420
tattacatgt ggttgggaaa aataaaaata caggggtgcg gaatactcca aaacctagaa   480
atgctgtagg aataaatctg cggtaactat agaggtttaa cttatatcat tttcaaacta   540
tttaattttt tcttttcctg gttctactaa ttatactgtg tcagatttgg aactaaacag   600
gcaaggaggc tttgagtcac atcgttttca tttaaatca ggctgtgatg cactgtggct    660
ggtgccgtct tgcatgaaac gcatgagccg tgagcgccca gttcagactg ggccaggga    720
ggggcagtcc ttggcacttt ctgtcctaga ggacactgtc agttgagtta atacaagtga   780
catagcttcc cttccctccc ccttcaccca ctccctccag aacatttagt gtagatgaaa   840
atgtggtgat agaaatgggt gcatgatctt cacgtgtgac agccaggcct ttgcctcttg   900
gccaagtaaa gcccttccgg gtcgctctcc ttcgattcca ttttacctcc tcttctgatc   960
acttccagag atgagctgtt tctggataat ggcacacggg caaatctgtg tgccctgtgg  1020
gccgctgtta cttaccctct cctgcgagac ccaggggctt ttccctactg ttcccacgct  1080
tcctctctct cgaggccact gaagtttgga gtcaaaaggc ccagagtctg agtcccagcc  1140
ctgagcactt aggagccttc tgacttaggg tttgtcactc cacctcattg agcctgactg  1200
ttctgctcca taaaataggg taataaaggt caaacatcag tgagcaagct gtgtacactg  1260
gaaaacactg aatcaataca atgcgtttgt gattatcatt agtaaggtaa gtcttagatc  1320
agagccctcc agcccttctt tttgaaacct cccaatggca tttcagaagt gagcagtgga  1380
attttcctgc catcctaata agagccctgg attccatcat taacatttca gcccattgga  1440
tgaagtggtg ccctctcctc tggtcccccg cgaaaaggta aatacaccca aagggaggga  1500
cctagttaag tcactggcac ctagataagt taggagggta aagccactac ctcgtctgaa  1560
ggactggact tgacacccca cagtggaagg gagcatcagg agaggaacaa aaaaagggat  1620
ctcagggaga ggccagtgtc aaacttgacc tcccttgttt ggcctagaat gaacccttct  1680
ctttagctcc tggatatgaa aggccatctg cttggagcac agaaagatat tgccatttta  1740
cagcttaaga gagtaaggcc ttgggctgtg ctgtgacctg cccaagattt gacactggct  1800
aggagcagag gctgcgtcag gctcttaaag tcatgtgttt gcatgctgga tgctatactg  1860
tccagccagg acacaagact tctgatttct accctcaaga tactcccaga tcctaaatcc  1920
agtagcctcc caggcaaaat atagcaatct gccacaactg ccagatgaaa agcaacaatc  1980
agagtagaaa aatctgttgc ctgatataca taacaccaat cagaccgtgt ggattttct   2040
ctgaattgac tgattttgtt tttttcttac tgaaaatgga cctgcctttc actgaatttt  2100
ctgagggcag agtcttagct gtttttcttta agcacctttt ttttttttt ccattgggaa   2160
atggctgatg agttcacatt tagggatgta cacacacaga tggcagacgt ctccccactc  2220
atccagcccc agatctgagc cttgacgcag gccaagtgga aaaatacttt cccgcccccc  2280
tcccctgttc ccacttcctc atctggcact atgcatgtct cactcaccct ccacagcact  2340
cagtcccatc gacgttcact gaacattggc tttctctttc tgactcctgc ctgtttagt   2400
ccactatata ttgctgtatt tgcttaaatg ctggaaagta actgttaaaa tgtgaaattg  2460
taattttaa aaaggctaca attaaatttt agccaatgcc actcaccaaa tctttgcacc   2520
tagtagatat atcaatgtaa aaacaaatac ctaactgtac agtgagtgtg ggggaaatgt  2580
agtaacctag ttagtagtct tcaatataac caattgtaca aggggaagtg gtgtttacct  2640
acttgttcat caccattact gaaagccgta ctgatcagtt agttgacaac gggcattttt  2700
ttttctttgc ttcatggaat gatttctttt cttaaccttc gacttatcct gaggtcaagc  2760
cttttgtctt tatgtgtaac cgacgttcag tctattctag gaatgaacca gcaagttgtt  2820
catttaaaac tgaccaaaga caattaattc ctggtctagt ttcctgggcc ttgtggctca  2880
gctgccacta aagagctttt tggataaaat tgagaacaag ctgtgcttcc tacccccactc 2940
tccccgtccc cttttattcc cttttcctct taaagagctg ctctgagctg tgggattcta  3000
tgaaaaattc ttgcctttcc ttgtttcagt gctaacgatt tctcacctcg aagcgccttt  3060
tgaaccccgg acagagtgca caatcggagg gaattgcgag cttgggaatt agactttgga  3120
gtcttttctc tgaagtcacc aggccagggg tcaggagaga gatggattcc caagggatga  3180
aaggtttcta ttcaatgaag aaatcggagt gggaagagac acagggaaat tgagccatat  3240
tttggctatc ggctggaacc agcagttcag agatctgcct tataaacatt taaaaccggt  3300
ttgtggtaca caaagaggaa ccagtgtggg aaggggcctt tatgtggggc tttcttctct  3360
gttggagtcc cttggagtgc cttgttgggt atatttctct gtcattcagg aggcacgaat  3420
gtggaggact tctcgtgacc tggtcgtgat gtggcattca gtgcatgtcc acagctaatg  3480
gaaaaacacg aggactcggg taatggttct tcctctcagt ctttctattc ctaacttttc  3540
acacatccag atggttccac actagtgcaa atgcctcact ctcctgagaa acccagaaag  3600
```

```
aagagtggct ggctcacaac catggggtta gcccctgctg ggctgggagt cggggtggcg    3660
gccaggagga aaggcagaaa ggggtgagcc gaggtgttgc ctagctgatt ttctgctgtg    3720
cagagctaat gctgacattt catgtcaact tccccggttc tctggggtct cctctcctct    3780
gagcagccac atagaacatt ccccacatat ccaaagctgc ccaggggagc cgagagaagg    3840
gactttgctg tcaggtccaa gccctcctga cctccctgag attgatctgc cagtgtcctg    3900
ctgtccctct gggactggcc acatggccat cgctgcccct tgttgacacc tcctttctgt    3960
gtgagttgtc cccggccaat aacaaagctg ttccttgaac cagaacaacc agagtgcact    4020
tttccttcct tagacggaag tagatcctgg ctagggtttc tgcccaggcc cttgttcccg    4080
gcagtgtgac tgtttacatg gtttggcaat aggtttgatt ctgattgctt cagagtggct    4140
ggtctatttt gtttcctttg gtttccttcc tccccaaatt gtgacaggaa aaacagacca    4200
aaaccaccct aggaaattgc tggttgcctg tccccacgtg atgataaatg ttgccctctt    4260
ctggatatcg tttctctacc ttacgaccaa acgcccgtcc tatagagtgt ctgattggat    4320
cctctgtcgc gtattctgat ggtgcctgct ggtttgacgt ggagctatcc tgtgaaataa    4380
aacagcttaa ctttttctcaa a                                             4401


<210> 5878
<211> 4401
<212> DNA
<213> Homo sapiens

<400> 5878
gccaccaaac atctcccacc gagttatttg gtgggatttg cagggacttt tctgggagaa      60
cttaaaggcc catagtaact gcgaatgaag caatatacca ctaacctgca gaaaaacaca     120
aacaaaaaca gactcccact gtctccagaa gtcgtggcct tccagaacag tctgcccctc     180
aaggaagggt ggggcaggca gtacccccaa gcaggctgct cccagaggtg gggaaccctt     240
cataggaaat ccccaccccc gtccaccca gagaccctgc ccttccaccc ggaggccaaa      300
ggccaactgt actcccaaag gcatgggaga aggttggcga gaagacccct gactaccaca     360
tccttgtgtt tgtgtgtaga dacggggggat agtgagaacc taagccccat cgtagcacag    420
tattacatgt ggttgggaaa aataaaaata cagtggtgtg aatactcca aaacctagaa      480
atgctgtagg aataaatctg tggtaactat agaggtttaa cttatatcat tttcaaacta     540
tttaattttt tcttttcctg gttctactaa ttatactgtg tcagatttgg aactaaacag     600
gcaaggaggc tttgagtcac atcgttttca ttttaaatca ggctgtgatg cactgtggct     660
ggtgccgtct tgcatgaaac gcatgagccg tgagcgccca gttcagactg gggccaggga    720
ggggcagtcc ttggcacttt ctgtcctaga ggacactgtc agttgagtta atacaagtga    780
catagcttcc cttccctccc ccttcaccca ctccctccag aacatttagt gtagatgaaa     840
atgtggtgat agaaatgggt gcatgatctt cacgtgtgac agccaggcct ttgcctcttg     900
gccaagtaaa gcccttccgg gtcgctctcc ttcgattcca ttttacctcc tcttctgatc     960
acttccagag atgagctgtt tctggataat ggcacacggg caaatctgtg tgccctgtgg    1020
gccgctgtta cttaccctct cctgcgagac ccaggggctt ttccctactg ttcccacgct    1080
tcctctctct cgaggccact gaagtttgga gtcaaaaggc ccagagtctg agtcccagcc    1140
ctgagcactt aggagccttc tgacttaggg tttgtcactc cacctcattg agcctgactg    1200
ttctgctcca taaaataggg taataaaggt caaacatcag tgagcaagct gtgtacactg    1260
gaaaacactg aatcaataca atgcgtttgt gattatcatt agtaaggtaa gtcttagatc    1320
agagccctcc agcccttctt tttgaaacct cccaatggca tttcagaagt gagcagtgga    1380
attttcctgc catcctaata agagccctgg attccatcat taacatttca gcccattgga    1440
tgaagtggtg ccctctcctc tggtcccccg cgaaaaggta aatacaccca aagggaggga    1500
cctagttaag tcactggcac ctagataagt taggagggta aagccactac ctcgtctgaa    1560
ggactggact tgacacccca cagtggaagg gagcatcagg agaggaacaa aaaaagggat    1620
ctcagggaga ggccagtgtc aaacttgacc tcccttgttt ggcctagaat gaacccttct    1680
ctttagctcc tggatatgaa aggccatctg cttggagcac agaaagatat tgccatttta    1740
cagcttaaga gagtaaggcc ttgggctgtg ctgtgacctg cccaagattt gacactggct    1800
aggagcagag gctgcgtcag gctcttaaag tcatgtgttt gcatgctgga tgctatactg    1860
tccagccagg acacaagact tctgatttct accctcaaga tactcccaga tcctaaatcc    1920
agtagcctcc caggcaaaat atagcaatct gccacaactg ccagatgaaa agcaacaatc    1980
agagtagaaa aatctgttgc ctgatataca taacaccaat cagaccgtgt ggatttttct    2040
ctgaattgac tgattatgtc tatggcttac tgaaattgga cctgcctttc actgaatttt    2100
ctgagggcag agtcttagct gttttctttta agcacctttt ttttttttc cattgggaaa     2160
tggctgatga gttcacattt agggatgtac acacacagat ggcagacgtc tccccactca    2220
tccagcccca gatctgagcc ttgacgcagg ccaagtggaa aaatactttc ccgcccccct    2280
cccctgttcc cacttcctca tctggcacta tgcatgtctc actcaccctc cacagcactc    2340
```

2792

```
agtcccatcg acgttcactg aacattggct ttctctttct gactcctgcc tgttttagtc   2400
cactatatat tgctgtattt gcttaaatgc tggaaagtaa ctgttaaaat gtgaaattgt   2460
aatttttaaa aaggctacaa ttaaatttta gccaatgcca ctcaccaaat ctttgcacct   2520
agtagataga tcaatgtaaa aacaaatacc taactgtaca gtgagtgtgg gggaaatgta   2580
gtaacctagt tagtagtctt caatataacc aattgtacaa ggggaagtgg tgtttaccta   2640
cttgttcatc accattattg aaagccgtac tgatcagtta gttgacaacg ggcatttttt   2700
tttctttgct tcatggaatg atttcttttc ttaaccttcg acttatcctg aggtcaagcc   2760
ttttgtcttt atgtgtaacc gacgttcagt ctattctagg aatgaaccag caagttgttc   2820
atttaaaact gaccaaagac aattaattcc tggtctagtt tcctgggcct tgtggctcag   2880
ctgccactaa agagcttttt ggataaaatt gagaacaagc tgtgcttcct accccactct   2940
ccccgtcccc tttattccc ttttcctctt aaagagctgc tctgagctgt gggattctat   3000
gaaaaattct tgcctttcct tgtttcagtg ctaacgattt ctcacctcga agcgcctttt   3060
gaaccccgga cagagtgcac aatcggaggg aattgcgagc ttgggaatta gactttggag   3120
tcttttctct gaagtcacca ggccaggggt caggagagag atggattccc aagggatgaa   3180
aggtttctat tcaatgaaga aatcggagtg ggaagagaca cagggaaatt gagccatatt   3240
ttggctatcg gctggaacca gcagttcaga gatctgcctt ataaacattt aaaaccggtt   3300
tgtggtacac aaagaggaac cagtgtggga aggggccttt atgtggggct ttcttctctg   3360
ttggagtccc ttggagtgcc ttgttgggta tatttctctg tcattcagga ggcacgaatg   3420
tggaggactt ctcgtgacct ggtcgtgatg tggcactcag tgcatgtcca cagctaatgg   3480
aaaaacacga ggactcgggt aatggttctt cctctcagtc tttctattcc taacttttca   3540
cacatccaga tggttccaca ctagtgcaaa tgcctcactc tcctgagaaa cccagaaaga   3600
agagtggctg gctcacaacc atggggttag cccctgctgg gctgggagtc ggggtggcgg   3660
ccaggaggaa aggcagaaag gggtgagccg aggtgttgcc tagctgattt tctgctgtgc   3720
agagctaatg ctgacatttc atgtcaactt ccccggttct ctggggtctc ctctcctctg   3780
agcagccaca tagaacattc cccacatatc caaagctgcc caggggagcc gagagaaggg   3840
actttgctgt caggtccaag ccctcctgac ctccctgaga ttgatctgcc agtgtcctgc   3900
tgtcaactct gggactggcc acatggccat cgctgcccct tgttgacacc tcctttctgt   3960
gtgagttgtc cccggccaat aacaaagctg ttccttgaac cagaacaatc agagtgcact   4020
tttccttcct tagacggaag tagatcctgg ctagggtttc tgcccaggcc cttgttcccg   4080
gcagtgtgac tgtttacatg gtttggcaat aggtttgatt ctgattgctt cagagtggct   4140
ggtctatttt gtttcctttg gtttccttcc tccccaaatt gtgacaggaa aaacagacca   4200
aaaccaccct aggaaattgc tggttgcctg tccccacgtg atgataaatg ttgccctctt   4260
ctggatatcg tttctctacc ttacgaccaa acgcccgtcc tatagagtgt ctgattggat   4320
cctctgtcgc gtattctgat ggtgcctgct ggtttgacgt ggagctatcc tgtgaaataa   4380
aacagcttaa cttttctcaa a                                               4401


<210> 5879
<211> 3304
<212> DNA
<213> Homo sapiens

<400> 5879
actgaagttt ggagtcaaaa ggcccagagt ctgagtccca gccctgagca cttaggagcc     60
ttctgactta gggtttgtca ctccacctca ttgagcctga ctgttctgct ccataaaata    120
gggtaataaa ggtcaaacat cagtgagcaa gctgtgtaca ctggaaaaca ctgaatcaat    180
acaatgcgtt tgtgattatc attagtaagg taagtcttag atcagagccc tccagacctt    240
ctttttgaaa cctcccaatg gcatttcaga agtgagcagt ggaatttttcc tgccatccta   300
ataagagccc tggattccat cattaacatt tcagcccatt ggatgaagtg gtgccctctc    360
ctctggtccc ccgcgaaaag gtaaatacac ccaaagggag ggacctagtt aagtcactgg    420
cacctagata agttaggagg gtaaagccac tacctcgtct gaaggactgg acttgacacc    480
ccacagtgga agggagcatc aggagaggaa caaaaaaagg gatctcaggg agaggccagt    540
gtcaaacttg acctcccttg tttggcctag aatgaaccct tctctttagc tcctggatat    600
gaaaggccat ctgcttggag cacagaaaga tattgccatt ttacagctta agagagtaag    660
gccttgggct gtgctgtgac ctgcccaaga tttgacactg gctaggagca gaggctgcgt    720
caggctctta aagtcatgtg tttgcatgct ggatgctata ctgtccagcc aggacacaag    780
acttctgatt tctaccctca agatactccc agatcctaaa tccagtagcc tcccaggcaa    840
aatatagcaa tctgccacaa ctgccagatg aaaagcaaca atcagagtag aaaaatctgt    900
tgcctgatat acataacacc aatcagaccg tgtggatttt tctctgaatt gactgatttt    960
gtttttttct tactgaaaat ggacctgcct ttcactgaat tttctgaggg cagagtctta   1020
gctgttttct ttaagcacct tttttttttt tttccattgg gaaatggctg atgagttcac   1080
```

```
atttagggat gtacacacac agatggcaga cgtctcccca ctcatccagc cccagatctg     1140
agccttgacg caggccaagt ggaaaaatac tttcccgccc ccctcccctg ttcccacttc     1200
ctcatctggc actatgcatg tctcactcac cctccacagc actcagtccc atcgacgttc     1260
actgaacatt ggctttctct ttctgactcc tgcctgtttt agtccactat atattgctgt     1320
atttgcttaa atgctggaaa gtaactgtta aaatgtgaaa ttgtaatttt taaaaaggct     1380
acaattaaat tttagccaat gccactcacc aaatctttgc acctagtaga tatatcaatg     1440
taaaaacaaa tacctaactg tacagtgagt gtgggggaaa tgtagtaacc tagttagtag     1500
tcttcaatat aaccaattgt acaaggggaa gtggtgttta cctacttgtt catcaccatt     1560
actgaaagcc gtactgatca gttagttgac aacgggcatt ttttttctt tgcttcatgg      1620
aatgatttct tttcttaacc ttcgacttat cctgaggtca agccttttgt ctttatgtgt      1680
aaccgacgtt cagtctattc taggaatgaa ccagcaagtt gttcatttaa aactgaccaa      1740
agacaattaa ttcctggtct agtttcctgg gccttgtggc tcagctgcca ctaaagagct      1800
ttttggataa aattgagaac aagctgtgct tcctacccca ctctccccgt cccctttat      1860
tcccttttcc tcttaaagag ctgctctgag ctgtgggatt ctatgaaaaa ttcttgcctt      1920
tccttgtttc agtgctaacg atttctcacc tcgaagcgcc ttttgaaccc cggacagagt      1980
gcacaatcgg agggaattgc gagcttggga attagacttt ggagtctttt ctctgaagtc      2040
accaggccag gggtcaggag agagatggat tcccaaggga tgaaaggttt ctattcaatg      2100
aagaaatcgg agtgggaaga gacacaggga aattgagcca tattttggct atcggctgga      2160
accagcagtt cagagatctg ccttataaac atttaaaacc ggtttgtggt acacaaagag      2220
gaaccagtgt gggaaggggc ctttatgtgg ggctttcttc tctgttggag tcccttggag      2280
tgccttgttg ggtatatttc tctgtcattc aggaggcacg aatgtggagg acttctcgtg      2340
acctggtcgt gatgtggcat tcagtgcatg tccacagcta atggaaaaac acgaggactc      2400
gggtaatggt tcttcctctc agtctttcta ttcctaactt ttcacacatc cagatggttc      2460
cacactagtg caaatgcctc actctcctga gaaacccaga aagaagagtg gctggctcac      2520
aaccatgggg ttagcccctg ctgggctggg agtcggggtg gcggccagga ggaaaggcag      2580
aaaggggtga gccgaggtgt tgcctagctg attttctgct gtgcagagct aatgctgaca      2640
tttcatgtca acttcccgg ttctctgggg tctcctctcc tctgagcagc cacatagaac       2700
attccccaca tatccaaagc tgcccagggg agccgagaga agggactttg ctgtcaggtc      2760
caagccctcc tgacctccct gagattgatc tgccagtgtc ctgctgtccc tctgggactg      2820
gccacatggc catcgctgcc ccttgttgac acctcctttc tgtgtgagtt gtccccggcc      2880
aataacaaag ctgttccttg aaccagaaca accagagtgc acttttcctt ccttagacgg      2940
aagtagatcc tggctagggt ttctgcccag gcccttgttc ccggcagtgt gactgtttac      3000
atggtttggc aataggtttg attctgattg cttcagagtg gctggtctat tttgtttcct      3060
ttggtttcct tcctccccaa attgtgacag gaaaaacaga ccaaaaccac cctaggaaat      3120
tgctggttgc ctgtccccac gtgatgataa atgttgccct cttctggata tcgtttctct      3180
accttacgac caaacgcccg tcctatagag tgtctgattg gatcctctgt cgcgtattct      3240
gatggtgcct gctggtttga cgtggagcta tcctgtgaaa taaaacagct taactttct       3300
caaa                                                                     3304


<210> 5880
<211> 263
<212> DNA
<213> Homo sapiens

<400> 5880
ggggaaagag ggtttggaaa tgtcaaagca aaggcaagtt gggagtagta gctgtcatct       60
gcagaaagtg tcttcaaaag tttaagataa attatcagag gccactgggt actgatacat       120
caaggcacat gcaacatttt gatgttcatt gtctacaaac gtcatataac ctcttggact       180
tttgttttta cctgtgtgtg tttgtgaact gtttattgac cacttatttc tgtcccagcc       240
actagattaa accctttacc tgt                                                263


<210> 5881
<211> 263
<212> DNA
<213> Homo sapiens

<400> 5881
ggggaaagag ggtttggaaa tgtcaaagca aaggcaagtt gggagtagta gctgtcatct       60
gcagaaagtg tcttcaaaag tttaagataa attatcagag gccactgggt actgatacat       120
```

```
caaggcacat gcaacatttt gatgttcatt gtctacaaac gtcatataac ctcttggact      180
tttgttttta cctgtgtgtg tttgtgaact gtttattgac cacttatttc tgtcccagcc      240
actagattaa accctttacc tgt                                               263


<210> 5882
<211> 263
<212> DNA
<213> Homo sapiens

<400> 5882
ggggaaagag ggtttggaaa tgtcaaagca aaggcaagtt gggagtagta gctgtcatct       60
gcagaaagtg tcttcaaaag tttaagataa attatcagag gccactgggt actgatacat      120
caaggcacat gcaacatttt gatgttcatt gtctacaaac gtcatataac ctcttggact      180
tttgttttta cctgtgtgtg tttgtgaact gtttattgac cacttatttc tgtcccagcc      240
actagattaa acccttacc tgt                                                263


<210> 5883
<211> 1075
<212> DNA
<213> Homo sapiens

<400> 5883
gccaccaaac atctcccacc gagttatttg gtgggatttg cagggacttt tctgggagaa       60
cttaaaggcc catagtaact gcgaatgaag caatatacca ctaacctgca gaaaaacaca      120
aacaaaaaca gactcccact gtctccagaa gtcgtggcct tccagaacag tctgcccctc      180
aaggaagggt ggggcaggca gtacccccaa gcaggctgct cccagaggtg gggaacccct      240
cataggaaat ccccaccccc gtccacccca gagaccctgc ccttccaccc ggaggccaaa      300
ggccaactgt actcccaaag gcatgggaga aggttggcga gaagacccct gactaccaca      360
tccttgtgtt tgtgtgtaga dacgggggat agtgagaacc taagccccat cgtagcacag      420
tattacatgt ggttgggaaa aataaaaata cagtggtgtg gaatactcca aaacctagaa      480
atgctgtagg aataaatctg tggtaactat agaggtttaa cttatatcat tttcaaacta      540
tttaattttt tcttttcctg gttctactaa ttatactgtg tcagatttgg aactaaacag      600
gcaaggaggc tttgagtcac atcgttttca ttttaaatca ggctgtgatg cactgtggct      660
ggtgccgtct tgcatgaaac gcatgagccg tgagcgccca gttcagactg gggccaggga      720
ggggcagtcc ttggcacttt ctgtcctaga ggacactgtc agttgagtta atacaagtga      780
catagcttcc cttccctccc ccttcaccca ctccctccag aacatttagt gtagatgaaa      840
atgtggtgat agaaatgggt gcatgatctt cacgtgtgac agccaggcct ttgcctcttg      900
gccaagtaaa gcccttccgg gtcgctctcc ttcgattcca tttttacctcc tcttctgatc      960
acttccagag atgagctgtt tctggataat ggcacacggg caaatctgtg tgccctgtgg     1020
gccgctgtta cttaccctct cctgcgagac ccaggggctt ttccctactg ttccc          1075


<210> 5884
<211> 1338
<212> DNA
<213> Homo sapiens

<400> 5884
ttcaagtata aattgttttt gacattaaga ccaactcctg ttcattacaa gcacctgacc       60
aactgtctta atagaaagta ctctagactc agtagcttat aaacaacaga aatttatttc      120
tcacggttct ggtggctaag aagtctgaga tcaaggcccc aataaattag gcctctgatg      180
agggcctgtt tcgtgattcg tagatggtac catcttgcta tgttctcaca taatggaaag      240
ggaaaggcag ctctctgggg cctctttta ttagtgcacg aatcccatta atgaggaccc       300
cacccttatg acctaatcac tccccagcca cgcctcccaa tacgatcaca ttggtaatta      360
ggtttcaaca tatgaatttt gtggagagac aagcattcgg accataacaa caacattctt      420
aaaactacca ttgtaggcca ggggcagtgg ctcacaactg taatcccagc actttgggag      480
cctgaggtga gagaattgct tgagcccagg agttcaagac ctgcctgggc aacatagtga      540
gacctcatct ctacaaaaaa tttaaaaatt ggctggggtg gtagagcaag atgttgtctc      600
aaaaaaaaat aaacaccatt gcaggctagt cagccactat tagattgtgg aatctactgt      660
```

```
gtattttatg taccagaaat ccagggtctt aaactttttt gctgagctct gaagatacca      720
ccaccatgca tcatattttc aagtagcctc taggaaatgc cttgtagaac ccaaattgaa      780
aactaacgta taactcttta tgttgtgaag gtggtcctaa tgaaatctaa ccatccccaa      840
aagtgtcttc catacctgac tcatacckttt agcaagtgac atcacattaa atttgtcaaa      900
atcagtcttt aataccttat ttagaattat gcagctatag aaggaacatg gaggaaatta      960
tagagctgtg ctgcccaata tggctagcca ctagctcaca tgtggctgtt taaatttaat     1020
tgaacttaaa ttgaaaatat aggtcctcac ttaaactagc cacatttaaa gttcacaata     1080
gccacatcta agtagtgact accgtattga caacgcagat gtagaactat gtagaacatt     1140
tgacaatact gtctagaaag tactgataca aaaagcactt tagttgataa tggcttatat     1200
atttatataa aaatgcctat atgatgactt ctcaagagaa aagattgttt ataactggaa     1260
cctataattt tatttcattg tgccagaaaa gtagctttta aatttataaa ttctactttt     1320
ttcccttaaa ctcctacc                                                   1338


<210> 5885
<211> 9479
<212> DNA
<213> Homo sapiens

<400> 5885
gcccttcta aggcacaaaa tgatgtgatg gaaatgaaga tgcagtcaga gagactttcg       60
aaagaatatg atcaactcct gaaagaacac tctgaacttc aggtgggtgt gacatgcact      120
ttatgcacct aaatgttttg aaatagtaat tacctaagta aattatttgg gttatttgtc      180
cttaactaat caagatgatg tacttaatcc tggctttgtt aaacgattta agaagccag       240
atttttacct agagggtaaa gattaggaca ttgcaggaaa atacaagata attttaagga      300
attgctgact tgcatactta cagcattcca gttttggtga attttttaagc aaaagaagcc      360
acaaaaatgg cagcattgga aaacagactg gttctagaaa aggtgagttt tgctctttgg      420
gatgtttgcc atattcatgc caaaatgagg ccaaaatttc aagttccaca tcacactact      480
cttgtctcag tgttttagac atattaggac aagactttag cattcaaatt tatcatttac      540
ctccaaatgt tgatttgaaa gatggaaatg ggaaaaaaat gtttcattgt taaagccaca      600
aagtcagatc tgggccatag gttttctttc tctttctctc taattcaata aaagaaatgg      660
tcatccctgt taggcttgtc tttcctccct cccttctgct gccagccagt aacctgaatt      720
gatttctcag acacactctg atcaattggg gaagagacca ttccagagac agccctggcc      780
ttccctccca gtttctccca agacagactg gttgggcttg tcttcaaaat ttggcagcct      840
ttgtggcttt cagtcagggc tttttacaaa taatagcttt ttatttcact gtacacattt      900
ccctgcatct taatggtcat ggtatctcca agactcagca ctgttcctgg cacaaggcaa      960
gcatacacta tactcataga ctttgtagtc agacctactt ggaataccta cctatacctg     1020
gctgcatgct aggttttttta tcttaggcag gttatagcat cccttttgggg ctcacttctt     1080
tcatctataa aaaattgaaac aataatgatg cctggctcac tggattgtta agagaactaa     1140
ataaaatgtg taggtttttt agcactatgc ctagctgaca gtaaacactc aagaaatgat     1200
aggtattatc atcatcatct gtattacttc ctctgtagga attttgctga aagaatgact     1260
tattctcaac caaccacttt ggccttggtt tagagccagt aattaagtaa cccaaagcac     1320
atatttgtaa tctgatattc ccagttggtt tgcatgtttg gtttaactag cctactttga     1380
caatagcaaa agacaaggta gccagagaag ggtgaatacc ctgtatgctc caatcccagg     1440
acactgaggg ctcagttcac atggcctgga gcagataggt agattgtcag caagaccacc     1500
ccttccccgt ctcaaaaata gagaccctaa aattgctgac ctcattgggg catgataatt     1560
attcgtggta tctttcaagg tccaccttgg aaagtgaaga agtcacttca gagacctctt     1620
gcctagaaat acaacatttt ccccctattt gtgagattag ggtttactca gccaggttga     1680
gtatcgacat tagtggactt tgccatgatg tcagacatgc ttagatcttt gaatggagaa     1740
aggaaaacca gaagtatgcc ttcagtttct tatggccagt gtccattgtt gaatgtctcc     1800
attgttgaat gtctccattg ttgaatgtct ccattgtggt aacagccatt ggttctctta     1860
attctgaaga atatatataa cagtgagatt tcctcaaccc atttcctccc cacagaaaag     1920
ccacagtcag cctggagctg ctgcattctt ggtaaaggaa gtagaaagct tttaagagtg     1980
attcctggct gagcgtggtg gctcacacct ttctttaatc ccagcacttt ggaaggctga     2040
ggcgggcgga tcatgggaga tcaagaccat cctggctaac aaggtgaaac cctgtctcta     2100
ctaaaaatac aaaaaattag ccgggcatgg tggcaagtgc ctgtaatccc agctactcgg     2160
gaggctgagg caggagaatc acttgaacct gggaggcaga ggttgcagtg agccgagatc     2220
gcgcttttgc actccagcct gggtgacaga gcgagactcc atctcagaaa aaaaaaaagt     2280
gattccttcc caagaaaata gttgttataa tagttgtcat acctgtttct gtggaaaaga     2340
ccccatccca gattatgcca gacaccatgc cgagagtagg gccttgtttg atagcacttc     2400
aggacttgat ctaatttctg cttgtatcca gtttttgaaa tatttaatag atgtcatttg     2460
```

```
ttgagagtat gctctggact aagcacttgg ctaagggctt cgtatatgtt gttttgttta    2520
ctctccatga cagctcaata attgaaagta ttttaatatc cctatttttgt gaatgaggaa    2580
actgagaccc agagatgtta tataatttat cgaaagtaac tagaaagtga tagcattcaa    2640
agtcagagaa tctttctcca gaacctccat cattaaccac tatgttcttt ggcctttgct    2700
gatcattgga ttgtgttctt ggatccattc tcctctcacc actgctttac tctgtatctc    2760
tgggaggccc gtttccaagg ctcccttgct gtctgactca gtctgggcag gtttagccag    2820
tggcaggcac tagaagactg aaggcaggag gaaggggaaa gccagggatt tcttctactc    2880
tttctgctat agaggccttc tcctttatga ctccagttcc ttccctctag gtcccactgg    2940
gcagcttcta catactggcc ttcgcacctg ggctccataa ccctcatccc tccagcccaa    3000
gaagtggtgg tggctttttct gctattgata atcccagagg tgccttacca ccctgtttgg    3060
tgtgtgtact ttttcatcac ctgtaaaacc aatttcccat aatatctctg ttggaaggaa    3120
aacaaaatct cagctccata gtttaccact tctgtaaccc acaggtgact catttgacat    3180
ctatgctcct caggtacttt actacttaaa taaaggttgt aatacctttat gaaaattaaa    3240
ccagatcctg tataagaaag cactttatat atttataatc aagaatgcta tttattatgt    3300
cctgactggt tacattttttt tccttcacct acccatcccc caccgttgtc caatatgaga    3360
ccctgtataa gattctcaga tttagatatc attaagagcc ccatttttgtt tgtttgtttg    3420
ttttttgaga cagtgtctca ctctgtcacc aagactggag ttcagtggca caatctcagc    3480
tcgctgcaac ctccacctcc ccaatttaat cgattcttgt gcctcagcct tctgagtgac    3540
tgggactaca agcacatgcc accatgcgca gctaagttgg gtattttttag tagagacagg    3600
gtttcaccat gttggccagg ctggtctcga actcctgacc tcaagcgatc cgcccacctg    3660
ggccttccaa agtgctggga ttataggctc gagccaccgt gcccagccaa gaacccttttt    3720
ctttaactct tgtgctttaa tgttcgtctg agccctgctt gagaagcaaa agatagttac    3780
agatcctcta tggtaaaaag ctctatcaaa ttgtcctcat gaatttactt ctgttgtcaa    3840
actaatctta gatattgaat tatatgctaa ggttctttgg aactagcttc ctgaatttta    3900
cacagttgac atattttcat tggaacaatc ataaaacgaa agatcattaa aatattaagg    3960
aaacaaaggt taaagaggga aacgctgatt tctttactgt aaatagatcc caatttgcat    4020
cttttaaatc cttttggatt tccccatctg gtcccctccc tgttataggc actaaataaa    4080
tattagaaaa cagtcccttc aaaacatgta gtcctttcct tatttgccct gcctctcttc    4140
taaaaaaaaa gaaaaacaga actaactaga gattattggc tgcacaaacc catcagcacc    4200
tgccagtttt taaatttcat tttggaaaat cagccatcac ttaagggact tgtccataat    4260
agcttcatta aagctttgtt ttttatcaaa aggggggccac atatgtaaac ttgtggaagt    4320
aatttacctc ctctactctt gtcttttttat ttgattgcaa aagttaatgt tattaaagtt    4380
gctatggaag cattaatgtt cagcctgaac aagagcttga cgaacttctt tatacaagca    4440
ataacactct gcaaccccat tttatgagat attttttcatg atgtagacat ttactttctt    4500
agcacaagtg atctcttaag attaatttct tttccatttt ccttcagttt taaatgatgt    4560
aatatagtaa tctttataac atgatcagcc aagtataatt tgagaagtca gttctgttgg    4620
caaatatctg aaggacaaaa ccaaagccac cctagctgag gttttttgtcc cttccttctt    4680
tcatttacca aaaaccttaa ttgggttaac agtaggggaa ttttagaaat catgtttttcc    4740
taatgtaacc tgtgaaacaa aagcaaaata gattaaggca aggggaaaaa tgaacttacc    4800
aagagtgttc ttttttcctaa gtaaaaacca caaattttat agttttttaa attttagact    4860
ttctcaatcc tttttttcac atttaattat tctcataagt atacatagaa gagagaatgt    4920
tttttaaaag tccttgtcat gtctatgaat ctgtttctct ttgctgtact acataaatca    4980
tatttttttc cttacaggat cgtttagaaa gaggcaacaa gaaaagactg tgaactttat    5040
aaaagacact tgcaatatac tgtgtcaaaa tgataatttt gttatgttag cctctagaaa    5100
atttaagttc agaaaaatgc actatgaccg gttcgtaatt tttttaatgc cacacatagg    5160
ttgtattgta atggcattat caaaatattt gatgatgttt cagatatatt gcaaagtctg    5220
tattccagct cttaagaaaa ataaagcat gttaaatacc atatttacat attgataatg    5280
tcattggtat atggtggctg tttaccaata aaaggaaaaa attcattaac cggttgcttc    5340
caaaattaga agttttaagt tgcatgaaac cattaatagc cttgaaagct ttgataagtt    5400
ttcagtaata ataacctatt taatcagatg atgatgtgtt tgaaaatagt gttcaatatc    5460
agcaaatttg tacacaggga atgtaaataa ggataactga tcagagttat ccactgtatt    5520
tataaggaag agtcggaaaa aacaatgacc ttagttttttt ttaagcctga tgatactatg    5580
gtttactcta ataagatagc tatattgata attatatttt tgttactgtg cccttgcaca    5640
ttttggtctt tttgttaata ttttttattaa taacacataa ttagtaacca ctctactgtt    5700
tcaagttaat ctagtaatag agcttacata tatttgtata actgctatac cactgaactg    5760
aatttatttt acaacagtgt agaattcttg aaagttaac gtagaaaata tccaaaaagc    5820
agtatttcta gaaagtgtcc aaaaagcagt atttctttcc cttggttgtg agagtaacta    5880
attatataaa tattacctca aaaatacata cactggtatc acacagtctt tctacaatgt    5940
ttctgtattc tgaaagctaa atattaagta ctattttttcc attcaaatat tcatttagaa    6000
tttcctttag aagatggcag tgattataat attaatatga tttcatttgt tccagtgttt    6060
agacatgaaa tcatcttcct tgtctcatga aaacctaaat ataaaaaaaa ggaaaatact    6120
```

                                          2797

```
ggagttttta tttctcttgt ctttgttaca tcctctgttt attataattt tagcaccaac    6180
ttcacaccta gctaattttt ttcatcataa agtggatgaa atgagcaagt acctaaaaat    6240
tttatttcag ataaaagtca ggagttactg ctaaaaaaca gacatgtagg agacattcaa    6300
caggagtatg aaatgagagt tagaccatat gggctgacaa caccataaat aacaagaaaa    6360
gggagtgctg aaataggaga gaacagagca aatgttagct caaagtatag acttagaaat    6420
atcaaagtaa gagctatctg gataaatata tagatattga gtgcttggaa tcctagccta    6480
ctatgtgaaa attaagtcta atgtcagaat aacttacaga aaaatagaaa atgcacagct    6540
ttaaaatggg cagagttaaa atctattccc agctttatca cttatttagc catgctagcc    6600
taggcctcta tttccttgtc tccaaaatga gaataataaa atttaggtca ggattactat    6660
ataaactaag ataatacagt gattctcaaa gttgttcaga ctgtatagta aggagaaagt    6720
ctggttgcac tttgaagagc ttgaagattt gaaagattcc caaaaaagca ttttaaagtt    6780
tacatttaag ggaccttgga cctcaaccct ctcaagttta caagtctgaa actttagaca    6840
tcaaaagttt gagcagtttt tccaaggcaa cattgatagt tagattcagg gccaggctgt    6900
aagtctagaa tttagatatc ctgatccccc agataccgct cttctggtta tacacagacc    6960
agctataatt tgctaaacat aaaatattgc agtgtattag ccggctgtgg ctccagagtc    7020
tgtgcccttt accaccgtgc ccaactgttt cacatgctgt gtttggtagt ttttcctagt    7080
actctcctta ataatggtgg tgtttagcaa attgtattac ataaataaat atttatttca    7140
tggattgagt tatgttgcat attaaattac tttccttccc attgtcaata atgacttctt    7200
tatgtcttag gctgtattat aaattcaaac acaggaatgt tattcttgcc ttttttccatc    7260
agaattacct aaagtttttat tagactttcc ccctacttgc aaatctgcct ggaggttctg    7320
gtctttagga agtagcactt agcaagttct ggataagcac tccagaattt gggatgagtt    7380
atccttgttg tttgtccagc tctatcttgg accccagtgc tgctaattag attcatgcct    7440
tgttctttag ggcataagtt cctctcttgg ctattttcc tagtatgctg agaactagga    7500
ttcccttttca gtgacagagt cctgccctgg aaccccaatc aagagcctaa agtttaacta    7560
ctctctgaga tattagcctg atgccagcag cctgcctgga tctctaaata ttacccattc    7620
tgggagttgt tagtggtctc tgctttcctg cagtgtcact cctgcttcct cattgggcct    7680
gctagccaca gctacttgga tgtacccgaa cctgttgcct tgccctacct ctgtgggctg    7740
gttcagttct gcattcccat tccagtgtcc actgccttct cgctatccct cccatctgtg    7800
cgccaccacc agcttatccc cagccctgct aacatgacaa actattgtgc atttgagtgc    7860
ccactataca atgtgtgaat ataaccgtgc ttttaagcat tgactttaat gtctgggatg    7920
atccgtctag agtccatgga accctcctgt gttttttcat cccttctta gtaatcttgg    7980
aaatccactt atgaaattct ttttctaaca tttctttgct gaacggcatt tttaaaatta    8040
ctttcacggt gtttctttcc agtttgatct ctacacaaac acaactttat tacttgcacc    8100
agaaatgatt tcaaacactt taggaactgt ggtaggctta attatgactt cccaaaagat    8160
atccctatac caatccctgg aacctggaaa tgttctcttc tatagcaaaa gatatgatta    8220
agttaaagtc ttgagatgga gagattattc tgggtaatct gggagtgccc taaatgcagc    8280
tacatctatg cttatataga agcaaaggga gatattacca cacagaagag gagaaagcac    8340
agtgaccaca gaggcagaga ttggagtgat ggagccgcag caaaggaatg ctgacagcca    8400
ccagaagctg gaggaggcaa agaacagatt cttccccaga gcctcttcca gcaggagcat    8460
ggccctacag ataccgataa aactgatatt ggacttcctg gcctccagaa ctatgggaat    8520
aaatttattg tttcaagcta tcaagtttgt gattatttgt tactgctgcc atagtaaatt    8580
aatacaggag catgcaggac agatctgtaa tggcctgaac tgaatttcaa ggggtgtgga    8640
aaacagttac tctttaacac cactccgtct tccccattag ccatttggat aagtcaaaga    8700
tagccttagc catctcctat cttagttact tttctccttc aactgtattt tgccattgtc    8760
gttgccattg cctctgccta actgcaagcc atcatcatct ctcacatgga ctatgacgac    8820
ctcctcatct ccctgtatct tctctaatgc ttctctcata tacatgctct cagcagccac    8880
ctggtttaaa acaaaaacaa aaaaaacact aatcatgtca ttccctgctt gtcttcccgt    8940
tctttccaac tgtcattccc tgcttgtctt ccaattcttt ccaactgcag ttaagatcaa    9000
accaccaaga cctcaccagg ctcccatcta cttttcagcc tcaactcagt ccacctgctc    9060
tgccaatcac acctgtttct ttttgttgtt ctttccctag gatatagatc ctggcatacc    9120
tgcattctga ttcttcttgg aacaagccaa attctttccc ctgtcagtac gtttgcatgt    9180
gtagtacatg ttgcatccca ggcctgtctg ccttcttacc ctattttatt ttcatcatag    9240
cacttactac catctgaaat gatctcattt atggtttgtc tcctcagtga ttaacacagt    9300
tcctgcacac agtaaatcag tagttctcaa caggaagtga agaggtcatc ctgaggggaa    9360
catttagcaa tacctagaga catttctggt tgtcataacc aggggaatgc tcctagtgga    9420
tagaagtcag ggaggctgtt aaacccattc cacaatgcac aggactggaa caaagaatg     9479
```

<210> 5886
<211> 617
<212> DNA

<213> Homo sapiens

<400> 5886
gcctttcatt gcctgcctgt gctggccatg cttctgctac caggctgggc ctgctcatgg   60
ggcccagttt ctttttcctc ttcagtgtgg ccttctctat cttcagggtt caccttgctc   120
ttcctcctaa tctgataaag aatgtttcag acctgtgatt tccccagatt ggactcctgt   180
gttctttcat tcgacattga tggttctcag tgaggctgca atacagtctt tctctcaact   240
atcctacaga ttctcttttg caacagctac taccttctac tcattccttc ctcctccaca   300
gtcctctctt ctctcatgag tcttctgaga ctatcaggcg gctggttctc caccacaggg   360
ctatctctct acatctctga cttctttgca tgactgctgc acgctgggct ctctgggcca   420
cttctcccac ccgaactaag ccctgccccc ctgtctctgc tgctttgatt ccttacatgc   480
ttgatttctg ttttgagact tatctgacat ttattgtttg taatgatcct tgtggaaccc   540
aaatcctttg atatgactac ctgggcattg gcccaaatct tctctgaaat ttctatttgg   600
gttaaaaaaa aaaaaaa   617

<210> 5887
<211> 617
<212> DNA
<213> Homo sapiens

<400> 5887
gcctttcatt gcctgcctgt gctggccatg cttctgctac caggctgggc ctgctcatgg   60
ggcccagttt ctttttcctc ttcagtgtgg ccttctctat cttcagggtt caccttgctc   120
ttcctcctaa tctgataaag aatgtttcag acctgtgatt tccccagatt ggactcctgt   180
gttctttcat tcgacattga tggttctcag tgaggctgca atacagtctt tctctcaact   240
atcctacaga ttctcttttg caacagctac taccttctac tcattccttc ctcctccaca   300
gtcctctctt ctctcatgag tcttctgaga ctatcaggcg gctggttctc caccacaggg   360
ctatctctct acatctctga cttctttgca tgactgctgc acgctgggct ctctgggcca   420
cttctcccac ccgaactaag ccctgccccc ctgtctctgc tgctttgatt ccttacatgc   480
ttgatttctg ttttgagact tatctgacat ttattgtttg taatgatcct tgtggaaccc   540
aaatcctttg atatgactac ctgggcattg gcccaaatct tctctgaaat ttctatttgg   600
gttaaaaaaa aaaaaaa   617

<210> 5888
<211> 54863
<212> DNA
<213> Homo sapiens

<400> 5888
gatgatatga gtaatgctgg tgattttcta aatgacaatg cagttgagat cccttctttt   60
tcaaaaggga ttataaatga tgatgaggat gatgaagacc tcatgatggc ttcaggtcgt   120
cctagacagc gaagtcacat cctagaagat gatgaaaact cagttggtaa gaatttgact   180
ttgtgcatgt gattaccctg ttgattaata ttttagattt tttattaaca ctattaaagt   240
cattattgaa tttgtagaat gtagctaagt ggtgcttaga ggaaattta tagcattaaa   300
tgactttgtt aaaaaaggtt tcaaatctat aatccaagct tctgctatgg cagactagaa   360
aaagagaaaa ctaaacccca agcaaatgga aggaaataat acagagcaaa attcaataaa   420
attgacaaca gaaaacctat agagaaagtc aatgagacca aaagctggtt ctttgacaag   480
atcaataagg ccgggcacgg tggctcacgt ctataatccc agcactttgg gaggctgaaa   540
tgggcagatc acttgaggtc aggagttcaa gaccagcctg gccaacatgg taaaaccctg   600
tctctacaaa aatacaaaaa ttagctgggt gtggtggcac gtgcctgtaa tcccagctac   660
tcaggagact gaggcaggaa actcacttga acccaggagg tggaggttgc agtgagccga   720
gatcgcgtca actgcatgcc agcatgggca acagagcaag actccatctc caaagaaaag   780
aaaagatcaa taaaattaat aaatatctat cgtggttgat caataaagag aagacacaaa   840
ttactaacat agagaatgaa agagaggtgg gccatcacta tagatctgta gatttgtgct   900
atccaatata tagtagccac tagccacatg tagctgttga gcacttgaaa tgtggttagt   960
tcaaactgag atatgttatg agtgcaaccg gatttttttt ttttttttga ggcggagtct 1020
cactctgtca cccaggctgg agtgcggtgg tgtgattttg gctcactgca acctccgcct 1080
cctggattca agtgattctt gtgcctcagc ctcctgagta gctgggatta caggcatgcg 1140
ccaccacgcc tggctaattt ttgtattttt agtagagatg gggtttcacc atggagtgca 1200

```
accagatttt gaagacaata tgaaaaaaag aatgtaaaaa tcttgggaaa tttttatat   1260
tgagtacatg ttgaaatgat aatatgtatt ttaaatgcac tatattatta agattatggc   1320
tgtttctttt tactctttaa actttagaaa tattagaaaa tttaaaatta cagctgtaac   1380
tcacattata tgtctgtatg gcagtgctac tattaatatc aaaggcataa tggcaatatt   1440
atgaataact ttgtgcccat aaatttaaca acttaaatga aatagacgaa ttttctgaaa   1500
gacacaaagt accactgcta actcaagaag taatagataa cctgaatagt attgtatcta   1560
ttaaagaaat tgagattgta atttaaaatc ttcaaataga gtgcttattg taacaactta   1620
catgctacaa taacacttga acattatcaa gtaaaatgaa gaaattgaga ttgtaattga   1680
aaatcttcaa atagagtgct tattgtaaca acttacatgc tacaataaca cttgaacatt   1740
atcaagtaaa atgccaatgt gcagtgctat gttgtgcttt ttaaagtcat atagagttta   1800
tagaacagca gtcctcaaat gttttggtct cagtagcctt tatactctaa aaaattttga   1860
ggacccttcc gagagcattt atttatacag agttacggct atcgtcattt acatattaga   1920
aattaaaatt cagaaattta aaaatattta ttcacttaaa aataacatta ataaactcat   1980
gtaaacatga atagtacttt tttatgaaaa acaaaaaaaa ttagtgagaa gagtggcatt   2040
gcaatctttg taatgtctat catagaggat agctggattc tctcatctac ttttctggat   2100
taagtctatt gctatacatt gtttttgttt gaagtgtata aagaaaattt ggcctcacat   2160
aaatatgtaa tttgaaaagg gagaagtatt ttaagaaatc ttttaatagc acattcaatt   2220
aattgtggat attctttgat gttgcaccaa gactcagaag atgatcgttt cctaaagatt   2280
acttgcaaag tgtaatctga aaacttcagt gaactcttac ggctctgtta tgttaagatt   2340
cattggtctg gctgggaatg gtggctctca cctgtaatcc cagcactttg ggaggcccag   2400
gcaggaggat tgcttgaggc caggagttca agaccagcca gggcaacata gtgagacctc   2460
ctctctacaa aaaaacttta aaaattagcc aggtgtggtg acgtgtgcct gtaatcccac   2520
ctacttggga ggctgaggta ggaggatctc ttgagcccga gaggtcgagg ctgcagtgag   2580
ccatgattgc aacagtgggc tccaggcagg gtaacagaac gagaccctgt ctcagaaaaa   2640
aacaaaataa aatcaaaaaa ttcattggtc tgacttgaat gttgaatgga ttttttaaaa   2700
tcatgtttaa ttttgtaaca tatgaattga taatattggt tcactgaagt ttatagatcc   2760
tctttatact gacacttttt attatctaat ataaattatt tgttttgtt tttaattaat   2820
tatatgttgt ttttaattaa ttaattttg tttttagaga tagcatcttg ctctgtcacc   2880
taggctggag tgcagtggta tcatcacacc tcactgtaac cttgagctcc tgggcttaag   2940
cagttctccc actcagcctt ccgggtagct aggactacag atgcatgcca ccatgcccat   3000
ctaattttt attttttgta gagatggaat cttgcttgt tgcccaggct ggtcttgaaa   3060
tcctggcctc aagtgatatt ccctccccag cctcccaaag tgctgcaatt acaagcgtga   3120
gtcacagcac ctggctgtaa attatatctg ctagtgttgt taccaatctc atcagtagtt   3180
tctaagtatt agaaagttgt gaagctcata atggcaaata gaagctttcc aatatcttaa   3240
ttttttaattg aaagctcaaa tttcttgttt ttattttttg agagggagtc ttgctctgtc   3300
acccagccta gagtgcagtg gcacgatctc ggttcactgc aacctctgcc ctctgggtac   3360
aagtgattct cctgcctcag cctcctgagt agctgggatt ataggtgccc gccaccatgc   3420
caggctaatt tttgtatttt agtagagacg gggtttcact atgtaggtca atctggtctc   3480
ggactcctga cctcaaatga tctacccacc ttggcctccc aaagtgctgg gattacaggc   3540
ctgagccact gtgcccagct cttttttttt tgagacggag tctcccgggt tcaagcgatt   3600
ctcctgtctc agcctcccga gtagatggga ttacaggcat gtgccaccat gcctggctaa   3660
ttttttgtatt ttcagtagag acagggtttc accatgttgg ccaggctggt caacgtggaa   3720
ctcccgacct taagtgatct gcctgcctcg gccttgcaaa gtgctgggat tacaggtgtg   3780
agccaccgtg cctggcctga aagctcaaat gttatcattg gcaacaaatt ctgccagtta   3840
tttttttctta attggataggc tcacttcatt catttacaag aaaatgtttg ccaaagatcc   3900
aattctgcat aaccgtagtt tatctggcat gtgttttta agtaaagta gtgttgtatg   3960
aaaaaaaatc acttagttca gcttacaact caaacaattg cataagtgct ttttttcaag   4020
acaaccatca cacttctcat tttagcacac agaactttaa aaaaaaaatc tgtgtaagcg   4080
tcaagattta ataaaattaa tattttact gcaagtgagt agtggttaac aatgcagtaa   4140
cgactaatac agttaggtgc cactgccttg attggtgcca aggcaccagg aatttttaccc   4200
accattgctt ttgcaccatc actgcatctc tttaacacag tgaaagaggc aaatagcatg   4260
tcagtgtcat tgaatatgaa tgaaaaagtt actagattcc ataatgcttt cctttttcca   4320
aatcattggt attcgtgatt cccttaatta tgatcctttg tgttgtagat atttcaatgc   4380
taaaaactgg ttctagtctt ctcaaagagg aggaggaaga tggtcaagaa ggcagcattc   4440
acaatctacc acttgtaaca tcccaaaggc cattttatga tggacccatg ccaactcccc   4500
ggcaaaagcc atttcagtca ggttctacac cgttgcatct cactcacaga ttcatggtaa   4560
gacttggatc tacacttaac ttcttagtag gttttcagca ctttttttt actatagtta   4620
atttttttgg ataaaacata tttttaaaaa ctttgattaa gtagcctgga gcactttggt   4680
tgattacagt tttgtggttg gttattttta tggttagctc acagtttttaa tcttgtttca   4740
accttattga aaatgatgtt aaataaaatt ctgctttcca aaatgacatt aaatgaacat   4800
aagtaaatat tactatcttg caatatttct tggcaatact ttcaaacctt attcttcatg   4860
```

                              2800

```
gtcattgtta catagaagat tatactgact ccaaaacact agtaaggagg tgctttctta      4920
gaaggcaact actagtataa tatattagaa ggtggcaagt actatggggg gaaaagtctg      4980
acccttttcc tcactccacc acccaccaga atgtaagcta cacgaggata aagattttg      5040
ttttgtttac tgatatgttc ttaggatttg gaacaaggta tgatacagtg cacattaaat      5100
atatatttca tgaatagaca aaatgaatat attggctttt tgccttagat ttgagttctt      5160
tttttttttt tttgagatgg agtctcgctc tgttgcccag gctggagtgc agtggcacaa      5220
tctctgctca ctgcaagctc cgcctcccag gttcacgcca ttctcctgcc tcagcctccc      5280
gagtagctgg gactacaggt gcctgccacc atgcccagct aattttttgta ttttttagtag      5340
agatgggatt tcaccatgtt agacaggatg gtctcgatct cctgacctcg tgatccgcct      5400
gcctaggcct cccaaagtgc tgggattaca ggcgtgagcc accgcgcctg gcctgagttc      5460
ttataaagtt tagttttttct gtgttggtta tatgatgttt tccattctga ggattttgcc      5520
tttttaaaag tataggcctg gcataaattt gaagagtata ggcctggcat aaatttttat      5580
gtaaagatta agggtggtga ttaatattaa taaaactttt tattgctatc agtagtcatc      5640
aagtcatagg tcttaatttt tttattagtg tcaatatttt atttatagtt atgttaaata      5700
aaatattggc actaatttta ttagaaactc tagggcctag tgtgagccta taatggacat      5760
cagtggaaga taagtttttcc aagtggtatc aatttatgtt gcctctgccg ggcgtgatgg      5820
ctcacgccta taatcccagc actttgggag gccaaggtgg gttggtcact tgaggatagg      5880
agttggagac cagcctggcc aacatggtga aacaccctat ctctactaaa aaaatacaga      5940
aattagctgg acctggtggc atgcacctgt aaccacagct acacaggagg ctgagggagg      6000
agaatcactt gaatccagga ggcagaggtt gcggtgagcc gagatcatgc cactgcactc      6060
cagcttgggt gacagagcaa aactgtctcc aaaaaaaaaa aaaaattatg ttttcttaaa      6120
atgtatgtat ttattttatc atagaatagt taggaaaaaa gtctgttgtt atttgcatcc      6180
atatttgtaa gaaaactcaa tttttgaaat atttcttttg aggaatttaa tggtttggtt      6240
gttcaaagga caactgtaat gtgctttttaa agtaacagtc atgtaattta tttttaaata      6300
ttattaaata ctctatttgc taattaataa gtatatatgt atcttattct caccaaggaa      6360
ataataagta attgtagctc tggtattatg actcctgtca gaaactattt agagatagat      6420
gagatgtagt aactcccaaa acctaaatct taatacaaat ttaattataa tatttgttaa      6480
tttgtactac tgtggcttac tgattctagg agcttcagtt tttctcagac ttatatttaa      6540
tcttacctgt ttgtaggtgt ggaactctat tggaattatt cgctgctata atgatgagca      6600
agacaatgcc atagatgtgg agttccatga tacctccata caccatgcaa cacacttatc      6660
aaacactttg aattatacaa tagcagatct ttcccacgaa gctattttgt tggcatgtga      6720
aagcactgat gaactagcaa ggtaaactca agattattag gaagaatttg gcactgttga      6780
actgttagat acagttgttg aaattaaaga caaaaagtta ataaaacaaa atttattttt      6840
tgtaatatga aatttcagaa gagtttggta caaacaccag cacacccaaa atacctcaga      6900
acatatgtct gtttttgcca taatgattcc ctcattacat gctctaacta catagcaaaa      6960
tgacatggca tagttagtaa tgcaagagat gggatttttt tttttacattg ttaagtgctt      7020
tttttttttt ttactattat aagagtaata tacattcatt gtaaagaaaa aaaaccagta      7080
tacagtatag aagtttcgga aaatgaaaac tcctcccaga attctactct cagatataac      7140
tgctatttac aatttgatat gtatccttcc agatttcttt ctatttgaac ctcccttatt      7200
ttaatttact ttattgagat gtaatttatt tacaataaaa tgcacccatt tgatgagttg      7260
acaaaggtgt atatacacag ataacccta ccacaatcaa aatacagaat gttctttatc      7320
acccgaaaat gtttctttat atccctttgc agttagttca accctagcct tggccaacta      7380
ttagtctaga ttttttgtcac tacgtctttta tcacccaaga atgttttctt atatcccttt      7440
gcagttaatt caacctgagc cttggccaac tattaatcta cattttttgtc atgatggatt      7500
aaatttaaaa tctctcttcg agaaaggaaa aaaaaacgga aaaacaaacc aaaaaatgta      7560
ctagtcaccc gtttgctttt tctacttaat attttttgga tgtttacatg ttttgataag      7620
taggtaggta agtaaatagg tagatagatg tcaagaaaaa aattatgatg ggaaagcaat      7680
gggtgcagaa tgtttttctt ttcaaaagaa aagaaaatat tttttcagct ttttgttaat      7740
caagagattg ccctctcttg atcccttctt cagctgatta tagtactgat acacttcatg      7800
gattttacta tcttctatgt gatttgaaat ttgtatcctt caggctgggc atggtggctc      7860
acgcctgtaa tcccggcact ttgggaggcc aaggcggaca gatgacctga gctcaagagt      7920
ttgagaccag cctgaccaac atggtgaaac tgcatctcta ctaaaaatgc aaaaattaac      7980
caggtgcagt ggcacccacc tgtagtccca gctactcggg aggctgaggc aagagacagg      8040
agaattgctt gaacctggga ggcggaggtt gcagtgagca gagatcacac cactgtactc      8100
cagcctgggt gacagagcaa aactccattt caaaaaaaaa gaatttgtat ttaataataa      8160
cttacatata tgtatgtgca aagaaaaaag ctggaaaga tatcaatata gttcatttta      8220
agggtatttc ataattactt ttttaaagca acttcttata ctagtgtata ataggaagta      8280
aactatttgg ttttttttgtt gaatatcatg attgcttata tatatatata tgtaaatatc      8340
atatgaaagt ttgattgttt ctgtcttgtt ttaatttttta gcaagcttca ctgcctgcac      8400
tttagttctt gggattcaag caaagagtgg ataatagact tgcctcagaa tgaggatatt      8460
gaagccatat gtctcggtca aggatgggct gctgccgcta ctagtgccct gcttcttcga      8520
```

2801

```
ttgtttacta ttggaggggt tcaaaaagag gtattcagcc ttgctggacc tgtggtgtca   8580
atggcaggac atggagaaca gcttttcatt gtttatcaca gaggtagatt ttttcagtc   8640
ttttatgact tgaagtaaaa tggaaattac ttgagctttt ttgctgtttt tgttactctt   8700
tttgtcttgg attatatact tccttttgaa tccgtgtaat ctttaaatgt agataatttt   8760
gttgtgttca ctagcagcaa tgaaaatgaa aatgtttctt aatagaacta tattatagag   8820
agaattccaa ggtggaattt ggttaattac ttccatgtct aaatcttacc attttggcaa   8880
gcacgaccag agaactttca gcgttgaaat tccacaaaaa taactcctag taggaagggc   8940
caaaacaact ctgaatgtga cacttttttaa aagctgctgc ctccttttc ctcccctcat   9000
gtctttcttc agtccccgtc actatgctaa gactggtctt atcaaggtaa ccgataatct   9060
ctgtgctttt ttaaaaaaat aattccattg aaaatacctt cttctcatga cttctgtgac   9120
atcatacttt caatatttt cctcactggc agctcccttt ttactttttt gttggctcta   9180
tcttttagct ggagtgtatc cccttttct ctactactct ctaggtcagg gtctttcagt   9240
cttttttgtct gctttgccac agtaagaaat agattcatag attctggacc aggtatggtg   9300
tggtgtggtg tggtggctca cacctgtaat ctcagcactt gggaggccg aggcgggaga   9360
gttgctttag cccaggagtt caatacaagt ctggatagca atagcaagcc cctgtttcta   9420
tttttaaaag aaaaacagaa gaaagaaat atattctata taactgttct ataaatatct   9480
gcaaatgtaa ctgaaataaa agtctcctgg acaatgttta ctcttttgat atcagtttaa   9540
attttttat ttcattttt aaaatgctag ttgcaaatta aaattgattc catgactctt   9600
aggtcaaaat atgcagtttg agaaccacc ctggggaatt ttatcataat ccatggcttt   9660
aaatacatct cagtgtctat gacttttaag ttgatagcac caaccctacc ctctccttgt   9720
gtctccagac ttacacatcc agttgcctac ttgaaatcta tttagagttt ggacagacat   9780
ttcagactta atttgctcac aataaaaact gatttttttc cttccaagct tgcttcttat   9840
gtagtttccc catcttagta aatggcttac taacaatcta gtggctgaag ccaaaaatct   9900
aaaaattatc ctcgattctt ctctttccat ttcccctgca tcaactccaa cagtaaaatt   9960
atatcatcat gtcaattcta tggaataaca cattctaaat ttgtctcttt tcatttcttc  10020
tgctaataca acctggatgt catctcttgg actgtcatag tagcctccta actagtcttt  10080
tagcttcagt tcttgccttc cacagtccat tctccacaga gcagcctagg tgatctttta  10140
aaaatataga tcatgctcct cttctcaaat ccctctgact ttccttcact tttagaatca  10200
aagtcaaact tctgatagct gtcaaggtga tctactgatc ccgtataatc tgacctttgc  10260
ctgcctctcc aacctcatct cttaccgttg tttctcatta ccatgttctg gccatactgc  10320
ctctttgtgt tcttcgagcc ctccattctt cctaccttag gactttgcat tagctgttcc  10380
ctccatccac ttccgtgttc cttcccctaa tgtttgcatg gcaggctcca gcttgcagtt  10440
catgtctcag cttaaacttt actttctgag aggtcacttc tgactaacca gtctaacaaa  10500
ccactctgac attctgtatc acattatttt aactttgtga taatttttt gttcttttg  10560
tgtttttttaa tttgtcttct acctgaaatt tgaatttaat aagagtggtg actttgttta  10620
ttgctgtagc cccagtatct aggccaatgc tggcgtgtag taagctctct gtaaatatgt  10680
cttgagtgaa taaatgccca cttataagga ctttatgtga agagtccatg taacatctta  10740
ctgtgtttct aatacctgaa tgatgcctca gttggatggg ttattcataa aaagtagtgc  10800
tagtcagtct agtaatttac cacaaaatca attcacagaa aataatttag actgcgttat  10860
agttggataa cctttgatgc ctgatttata tttacatttt ctcattaggt acaggatttg  10920
atggggatca gtgccttgga gttcaactgc tagagctggg gaaaaagaaa aaacaaattt  10980
tgcatggtga ccctcttcct cttacaagga aatcctacct tgcatggatt gggttttcag  11040
ctgaaggcaa gataaatttg tttaaaaaaa acaagtataa tataaagtgt tagatattct  11100
tcaagaagaa aattatttca ttgtttttatt cctaattaat ttaagaataa attatctcta  11160
ttttatattt taaatttcta ttttaatatg ttggcagaac tgggagctgc aatctttagg  11220
caaggtagcc attgttttat gtataagatc ttgttttat ttttatgttc ttttaagaca  11280
gggtctggct ctgttgtcca ggctggagtg cagtggcatg atctcggctc actgcaacct  11340
ccacctcctg ggcttaagcc atcttcctac ctcagcctcc ttagtagctg ggactacagg  11400
catgtgccac catgcctagc taatttttgt attttttgta gagacagggt tttgccatgt  11460
tgcccaggct ggtctcaaac tcctaggcgc aagtgatcca cccaccttgg cctcctaaag  11520
tgctgggatt acaggcgcga gccactgcac ccggctaaga gctctcttca tgagaattct  11580
cattagaaaa cttataaaga aggaaatata ttttctgaa agtattaaat agcaaggagg  11640
tgatacaaat caataataag ttgtgtcttt tccagcagat catacagaaa acttagaatt  11700
ttctagagct tcactgttta ctacaataac tagtatgtgt gtctgttgag cacttgaaat  11760
atggctgaga tgtgcttgta tgtgtaaaat actctggatt ttgaagactt agcatgaaaa  11820
aagatataaa aatcaatttt tttatgttga ttacatgtta aatgataata tttgagatat  11880
cttcgatgaa ataaaatgta ttattaacat taacttcatc cttttttttct ttaaaaataa  11940
tttttttttt ggctgggcat ggtggctcat gcctataatc ccagcactct gggaggccga  12000
ggcaggagga tcacttgagc ccaggagttc aagaccagag tgggcaacat agtgagatcc  12060
catctctatt taaaattttt tttttttaa ggaataaatt aggagtcttg ctctgttgcc  12120
caggctggag tgcaatgatg cgatctcagc ttactgcaac ctctgccttc cgggttccag  12180
```

```
caattctcct gcttcagcct tctgagtagc tgggattaca ggcttgcgtc accacactcg 12240
gctaattttt gtatttttaa tagagacagg gttttaccat gctggccagg ctggtcttga 12300
actcctgacc tcatgtgatc cacccgcctc gacctcctga agtgctggga ttacaggcgt 12360
gagccaccgc ccccagccta aatttttttca cttaactttt ttttgttgtt cagatacatg 12420
gtatgtagcc attttttttt taatgtggca ctaggaaatt aaaaattaca cttgtggctc 12480
acatgatatt tcttttggat aagtgctatt ttagaccaaa ttctagaggc ttatgacaga 12540
tgatttgaaa gacactgagg agtaccttat tttattttat ttgttttttgt gtttgtggtt 12600
ttttttgacgc agagtctcac tctgtcaccc aggctggact gcagtgatgt gacctcagat 12660
cactacaacc tctgtcttct gggttcaagt gattctcgta cctcagcctc cggagtatct 12720
gggactacag gcacatacca ccacgcctgg ctaatgttgt attttttagta gagatggggt 12780
tttgtcatgt tggctaggct ggttttgaac tcctggcatc aggtgatcca cctgcctcag 12840
cctctcaaag tgctgggatt acaggagtga gccactgcac ctggcccagg agtaccttat 12900
tttaaatcac ctgtcatctc tgtctcatgg ggacttaaat atttctcttt ttggagattc 12960
atgttcttca tttacattgc tggaaactcc actttgtctt taaaatatca accatttcta 13020
aatgtgtttt ctattagtca ttcaggcttt aataatatga accattgata acttccattt 13080
gtatagattt ttttctccca agtaccaatt agatccagac cctgcggaaa ctaatgtttg 13140
cagagtgagg ggggtgtgaa gccacagata agaaaaggga taatcaggta atttgccaca 13200
gatttcctga gttggaagca gaataggtgg aaaacaagaa tgcttccctg tttttacgagg 13260
taagaattgc ttacctagta gttggggaca gagtagtgac aaggccaaca aaaagaagag 13320
agaggaagaa gagtactaaa gataaatttc gtaaagatca ctttgtatca gattttggtc 13380
atttttctaa atgtttctca agcgggagcc ttctgattca tgtttaattt tttactaaaa 13440
ttggctttaa aattattatc ggccgggcgc ggtggctcac gcctgtaatc ccagcacttt 13500
gggaggctga ggcgggtgga tcacaaggtc aggagattga gaccatcctg gctaacatgg 13560
tgaaaccccg tctctactaa aaatacaaaa aaaaattagc tgggcgtggt ggcgggtgcc 13620
tgtagtccca gctactcggg aggctgaggc aggagaatgg cttgaacctg gaaggcggag 13680
cttgcagtgg gccgagatcg cgccactgcc ctccagcctg ggtacacatc aagactccat 13740
ctctttttttt ttaataataa taataaataa ataaataaat gaaattatta ttatcttcca 13800
gcaggtggca tagttttcac tgaaactcag ttttttcact ttatttgtgt aaattttagt 13860
catatcaaat ccaatgtttt ttctttttttt agttaggtct tactttatat ggttaatgaa 13920
attttacgta ataatcttag attatttgct tctgtttttgt gttttgctttt tgaaagcaaa 13980
gttgaatcct tggtatgtat aatatatttg aaatagggtt cctttaacaa catgtagcta 14040
tgtctccaag tgatttttct gttggtgttt aggtacccct tgttacgtgg attcagaagg 14100
aattgttcga atgcttaaca gaggacttgg taatacgtgg actcctatat gtaatacaag 14160
agagcactgc aaaggaaaat ctgatcacta ctgggtggtt ggtatccatg aaaatcccca 14220
gcaactaagg tgggctatta aaagaagtct aaagttgact cttttttaaaa agtatgttga 14280
aattcttttt atgaggccct ttaagtgtat ttgtctttta tcttagtcca attacttgct 14340
ttccatagtc actaaattag gaatttgttc atattcactc tgaagttttc agtcacttgc 14400
tttacttgaa acatgttgaa caaaatagaa ataattagga tgaccttacc atcatttcag 14460
ccacacaggg agaggaattc tgattaaaca tggcatttca cctttttatta ctgtcttttta 14520
ttttaataaa ataacaataa atataaaagt taaagtgaaa ataaaacaat atatattcaa 14580
ttgagaattg aaatatacaa ttaagctgct ttttgagatg ttttgcttaa ttatcgtaat 14640
aggaggaagg actaatagaa gacagagtct cgctctgttg cccaggctgg attgtagtgg 14700
cgtgatctca gctcactgca agctccgcct cacgggatca caccattctc ctgcctcagc 14760
ctccccagta gctgggatta taggtgcgca ccatcacgcc tggctgattt ttttgtattt 14820
ttagtagaga gggggtttca ccgtgttagc caggatggtt tcaatctcct gaccttgtga 14880
tctgcctgcc tcggcctccc aaagtgctgg gattacaggc atgagccacc acgcccagct 14940
gagttttttt tttttttttt ttttttatgt ggagtctcac tctgtcaccc aggctggagt 15000
acagtggcgt gatctcagtt cactacaacc tccactttga gttcaagcta ttcttctacc 15060
tcagcctccc cagtagctga gattacatag gcatgtgcca ccatgcccag ctaattttttg 15120
tattttttagt agagacaggg tttcaccatg ttggccaggc tggtcttgaa ctcttgacct 15180
caagtgatcc acctcaagtg atccacccaa agtacaggca tgagccaccg tacctggtcc 15240
tggactaata gtattttata ttgatccgtg tgcacattaa agtttgggaa gtactgctgc 15300
tggcatatgt ataaaatgat acattggctg ggtgtggcat gggatttctt tttggggtga 15360
tgaaaatgtt cagaaattag tgttgataga tgcacaattc tgtgaatata caaaaaaacc 15420
actgaattat gtcttttttt ttttgagac agagtctcac tctgtcaccc aggctggagc 15480
acagtggccc gattatgtct cacttcaggc tcacttcagt gacatcctgg ctcaagcga 15540
tcctcccacc ttagccttcc aagtagctgg gactacaggc acgcaccacc acacccagct 15600
acttttgta gagacagggt ttcaccatgt tgcctaggct ggtctcaaat tcctgggctt 15660
aagggatctt cccgcctcgg cctcccaaag tgttgggatt acaggcatga gccactgtgc 15720
ctggctgaat tgtatactta ccatatgata tggctggtac attctctgtg aactcaatat 15780
tatgtgaatc atatcttgac aaagctgtta aaaaggatga ggacactata taatgatata 15840
```

2803

```
gaaaaatctg caagatgtgt taagtgaaat aaataccatt tgtgtaaaag tggggaaaga  15900
ataagaatat gtaattgtat ttgctttaca tacgcaaaag aattcctaga agaatgaaaa  15960
ggaaactaac aataatagtt acctcacgga gagaaactca gtggatagta taggagactt  16020
ttctctgtat tcattttat acttttgag catgtaaatt gagcatgtaa ctttgaatta  16080
ctagttcaaa agttaaataa attgaatttt taaacaaagc agcaattcaa taaactaaat  16140
cagataaggc cagaagttaa gttcaagaag acttcttaat ttggctacat ggaggttaac  16200
ggtgactctg ataaaagtga taaaatgtta aattccagat tggggtgggc atgggaggta  16260
aagaaatgaa agtagaatat gtggataact cttatcaaga aatttgacta ttgggccagg  16320
cgaggtggct cacgcctgta atcccaacac tttgggagcc caaggcggga ggaatgctgg  16380
aggccaggag tttgagacca gcctgggcaa catagtgaga cccagtttca acaaaaaaaa  16440
atttttttaa ttacccaggc atgatggcac acacctatag tctctgctac ttgagaggct  16500
aagaggggag gatcacttga gcccaggagg ttgaggttac agtgagtcat gatcacacct  16560
ctgcactcct gtctaggcga cagagaacct atctcaaaaa aaaagaactt tggtgtgaag  16620
aggagcaaag atttgggggtg gcacctaaag gaggataaaa agtctttgaa gggatttttt  16680
agcttaggtg actctatagc attttttgtaa tcttttggca atgaatttag taaagaagat  16740
aagattgata atttaaaaga aggagccaat gaaaggaatg aaaaaagaaa aaaaagtagt  16800
agcttttaga tcacctgtct aaaataggaa aatagacatt tcatcagttc tggaaaggga  16860
aaaaaatagg cacaaatgca gatagatttg gtagccaaaa ggtaacaaat tcctatcttc  16920
tgttttttggc ttctgttttg ttggcagatc atgaagcaga attcagttat ttctggagac  16980
agtggttggc attgtgggat gtttgagaag aaaagacata tagtctcaga ggatgcaaaa  17040
ttgaattagt agagaactac agaggaattg gtggttattt ctgtgtgttt tgcctttaca  17100
gttgtaatca ctgaatatta cattctaaat attgacatat ttagtatcag aagaagtata  17160
ttcattaacg gtttttttttt tttagagcca gggtatcact catttgccca tgctggagtg  17220
cagtagtgca gtcatagctc actgcagcct tgaattcctg ggctcaagtg atcctggcac  17280
ctcagtctcc tgagtaggta gaactacagg cacaggctac cacacctggc taattttttaa  17340
aaatattttg taaagatggg gtctcaccat cttgcccaga ttgacctcta attcctggcc  17400
tcaactgatc ctcttgcatc agccttccaa agtgctagga ttataggtat aagccagatg  17460
ccaagccaca ttcactattt ttagtagttc ttatagtgta ggttgttctc agtgatttct  17520
tgcatgtcca ttttcaggaa tctagttagt ttagtaattt gaattaaaga attcacagtc  17580
tatcttaata gtaggttaag gtttgaacct atgaggattt ttactattct gcctaatgct  17640
tattcaagta agattattca ttttgttagt gaatgtcatt atcttagagg tatatgaaat  17700
tatttatttg caatatatga aattagtcat ctgcaatgaa caattttgct tcttcatttc  17760
atttaatatt acaagtattt catcaattgc agttttcaca cccttagtaa tttatccagc  17820
tggctttttt tttcttaaca tgcttttttt tttttccaca caacccttttg gaacacattt  17880
tttacttgct ttttatttaa gatttgtaaa gaattttaac ttgttaaaaa ctacgataat  17940
tacagctggt aacatttaac tgttatattc aataatggat aaagaaataa tggactgtaa  18000
attacagctt ttacacttag aaggattta gaaaccgtct atactagtag ctcctgacat  18060
tttcaaatat aagagccctt tttatttatt tatttagaaa cagggtctcc ttacgttatc  18120
caggctggac ttgaacaaga gtcctttttt aaatgttgaa cagttcatgc ctccaaataa  18180
tagtagctct agtagctcta catttagtat cagctaataa agaatatttc tttattgaga  18240
cacagtctcg ctatgttccc taggcttttc ttgaactaac ctcgagtgat cctcccacct  18300
tggcctccca aagtgctggg attacaggca tgataacata agcttctgta gacctgaaaa  18360
ttttatttta atataaaatt gtatttacaa atcacgttat ctgcatacat gtgaaaattt  18420
tagtatgtaa agtggaaact attttttgtat ttggtctaca gacaattcat ggtgcttgtg  18480
tgcattccta gacactttat aatagctcag cagccctaca ggaataaaag aatgggaact  18540
accaagttct tttggtctat ttgctgtctc tcttcacccc cagcacttct ccccaatttt  18600
tacatatgag aaaactaagg tccaaaaaga ttaaagtaat ttggtagaga gtacacatct  18660
atttattggc aaaaaaaaaa caaccttatt ttttttgtatt aaaatatagg aacaaaggga  18720
gttagctgat aagtagattg aaagaataaa tacttctcct ataaagacca gcttgttgta  18780
gaataattga attactgagg ggaatcttat acagtaggca tttgaagcac tgagaagata  18840
cactaaaaaa tctgttgata gaaatgtatt tatttgtata ttatgtgata aattgataac  18900
tgcagactgt tttcatattt tcatattttc ctggctttat gctggaataa taaacttgaa  18960
taagaatatt tttctttttt tttggtacac ccttgtagaa catttatttta tttattattt  19020
attatttatt ttttggtata tagccttaaa tattttttcaa agattggaag caacacttct  19080
cagtatggct tactgtactt ttcacaccag ttttgcttaa catgttggca tatttagaga  19140
tgattcattt cctttctgtg gatagcggta catggaagtt cggggaataa aattctgcaa  19200
tcactttttt agtagcctgc tgttgtgttt aaagagcctt acctattttg gctagcaaga  19260
aattcatttt tggccaggct ttgtgactca cagctgtaat cccaacacat cgggaggcca  19320
aagcatgggg atcacttgag gccaggagtt tgaggctagc ctgggcaaca tagagagacc  19380
ctgccaggca tggtggtaca tgcctgtagt cccagctgct cgggaggctg aggtaagggt  19440
atgacttgaa cccaggagtt caaggttata cagcccctgc accccaacct gcgtgacaga  19500
```

2804

```
aggagacttt gtctctaaaa taaaaaggaa ataaagaaat tcatcttcat atttatttgc 19560
attttttaatg cctctgtttg ctctcattgt ttgtgataaa gatagcaaat cacatgcttc 19620
tctggaaagc caatgtggcc tagtggtcca gagctcgagc tctcgagtga cactgcctgc 19680
ttgtggtatc ctggctgaaa tcctcgttca gtagccctgg ctctgtgcca ctgtttcctc 19740
atctctaaaa ccacagtgta cccatttcac agaatttctg tgaagatgaa gtgacttagt 19800
gatacctctt tctttattct tttaacttta aatgcatttt ctaacccaac tcagtggtat 19860
ttatgctttc ttttttgttca gagatccttt aaaagaaagt acattttgtg aaaaataatt 19920
tttaaaaatt catttgagag cgtgtcacat cggtgcacac ctgaatacca gctacttaaa 19980
agacagggggc aggaggatca ctggagccca ggagtttgca gacagcctgg gcaacagcaa 20040
aacccccgtct ctttaaaaaa aaaagcatta atttaagtca atataaaatt ttcctatttt 20100
cctttaatta tgaatatgag gttgggtgca gtggctcacg cctgtaatcc cagcaccttg 20160
ggagggcaag gcaggcagat caccctgagg tcaggagttt gagactatcc tggccaacat 20220
ggtgaaaccc tgtctctact aaaaatacaa aaattagcca ggcctggtgg cagatgcctg 20280
taatcccagc tacttgggag gctgaggcaa gagaatcgct tcaacctggg aggtagaggt 20340
tgcagtgagc cgagattgcg ccactgtact ccagcctggg caacagaggg aaactctgtc 20400
tcaaaaaaaa aaaaattatg aatatgagaa attactgatc tgtattaatg tcatccctgc 20460
cccctttgag ctgaacttca gtttaccaag tattgtttct tctaaagatt ttttcatgac 20520
actactggtt aatacataac tgagagttaa taaattttgc tgtgttacag tctaatttgc 20580
tctctaccaa cagagacctt ctttcttttt ctgtttagtt tttcaaaaca agagttattt 20640
aatgtgcttg aaaactagac attttttccta gttgtgttca ctgaattagc atttattata 20700
gtaccgacta gatgtgctat accacacaaa gataaatgag gctgtggcct ggaagaggta 20760
ggcttgtaaa gtcattatgc tactcccaaa taagtgcttt aaaagagatg tgagcaaagt 20820
cccctcaaat gcagaagaca gtccggtcca acacagaaga aaaagcaaaa cttgctggct 20880
ggggcaaggt taatctggac acgacctagt tttctccagt ttggcatttt tatttatttt 20940
ttcgagacag agtctcattc tgtcatccag gctagtacag tggcacaatc tcatctcact 21000
gcaacctcct ccttccgggt tcaagtgatt cttatgcctc agcctcccaa gtagctgaga 21060
ttacaggcat gtgccaccat gcccagttaa ttttttgtat ttttagtaga gacagtgttt 21120
cgccaggttg cccaggctgg tctcgatctc cagagctcag gtgatctgcc ggccttggct 21180
cccaaagtgc tgggatatta caggagtgag ccaccacgcc tgattatttt ggcatttta 21240
aactctttct ttaatataac aaaaaaaaaa aaaacaaaac aaaacaggtt ttgtggtcaa 21300
tttgaaaaca aattgaagta attttttttt ttttgagac agaatctctc tctgttgccc 21360
agactggagt gcagtggcgt gacctcagct cactgcaact tctgcctcct ggcctcaagc 21420
gatcctccgt cctccgcctt ccgagtagct aaagctacag gtccatgctg ccatgcctag 21480
caaattttt gtattttttg tattttttg tagagacgag gttttgctat gtagcccgag 21540
ctggtcttga gctcctgagc tcaagcgatc tgcctacctc agcctcctta tgtactggga 21600
ttacaggcat gagccactgt gcccagccac ttttgtcttt ttagtaaacc aggttttca 21660
ttgtttttt tttttaaat tcctcttcca ggtggtttat gcacatagtt tccaggaaac 21720
tccgtcgtca tcaaaaccca ccaaattagc agtttaaatg tgtttgtttt ttccttgaat 21780
tcttctatga cggggatatt taacagagaa aacatctttt tagttgaagt ctctaaagct 21840
aaggaaagga taaaaaaatg cgaattggtg ctctgctttg atgtaaatgt ggcttagaaa 21900
gtaacttaat aaaatcctac tcagtatttc ctttttcttt gtgataattg cttactatgt 21960
gtaaatcaat aaagtgagct gtaaaatgtt tttaaacagg acattttaga aaaaaatgtt 22020
taggcaatta acatttctca cagtgtttct tctaattttg ttaatgtaca tatatatgta 22080
cctggactca tcttttgtga atgcacatgc tcttttttcat tttgcatgac tagtaaagta 22140
gtgattcttg taaatagaga tttatgacag aattgccaca agattctttc aaacttgagg 22200
tattcacact gccacctcat actgtgtggt gaaaactaga ttttttataa aatcataaaa 22260
ggagagaagg aagaaataaa tgaaattgta tgttcaaaaa aattagaacc ctaaaaacat 22320
ttgtattttt attgtatagt cagaaaaaaa agaagggagg gtatttgaat ctcacaagaa 22380
aggggcctga gtagtttgaa aaagaatact agacattgtc acttacttgt tttctaatta 22440
ctctagtggg catttgataa tactggaaga tatttataaa atttttaaac cctaggtct 22500
agcttctact tagtatctcc cttcaagaat gtcctgatta aaaggctata ctataaatta 22560
agtggatgat tattagtaag cattcaaaaa gagatttcgt cttttaaat gactttatga 22620
aaatatgaaa tttgcctgtg gtatttatag tgtgcagtca tggttttcca gtgctttct 22680
aataaataaa tcggagtaca taagttgaaa gagttctata tatatataaa tcattctgtg 22740
attaattaat gcttttaat aaatcagctg cgagagcact actcatgatg ggcgtgtttg 22800
aatgccttat atagactact cagaacaggt ttagacagtc tttgccccgt tgacctgtta 22860
ccatatttat cagagtagat atagattata gtctttctaa tgatgttctg cttcactctg 22920
accaatatct aataaacact taacctatat taggcatttc accatctttc tgtctctctt 22980
ttttggaatg gagtcttgct atgttgccca ggctggtctc ctggcttaag tgatacccTt 23040
ctgtctcagc ctcctgaata tctgggatta caagtgccca ctaccatgcc tgattttttt 23100
ctctttttg acaactcata ccgacagtac taagaattcc caaactgatg gatgaaagtg 23160
```

```
aatatgcctc attggcattt tttttttttt ttttttttttg tgacagtctt gctttattgc 23220
ccaggctgga gtgcagtagt gcaatttccc aggttcaaga gattctcgtg ctttacccttc 23280
ccgagtagct gggattacag gcgttcacca ccacacccag ctaattttg tattttttagt 23340
agagatgggt tttcaccaca ttggccaggc tggtctcgag ctcctggcct caagtgatct 23400
gcctgcctca cccctcaaag tgctgggatt acagacatga gccaccatat ctggccaact 23460
tttttttttt tttttggtga gaccgagtct cactctgtct cccaggctgg agtgcagtgg 23520
tgtgatctcg gctcaccgca agctccgcct cccgggttca ccccattctc ctgcctcagc 23580
ctcctgagta gctgggacta caggcgccca tcaccacgcc tggctaattt tttaaaatat 23640
ttttagtaga gacagggttt cactgtgtta gccaggatgg tctcgatttc ctgacctcgt 23700
gatccacccg cctcggcctc ccaaagtgct gggattacat gtcttgccat gttgcccagg 23760
ctggtctgaa actactggtt tcaagtgatc cacccacctc agcctcccaa agttctggga 23820
ttatgggtgt gacccaccgt tcccagcctt gtatgtcttc ttttgaaaag tgtctgttca 23880
tgtcctttgc ccacttttta ttggggatat ttgttttttg ctgctgattt tttttaagt 23940
tccttataga ctctggatat cagatctttg ttggatgcat agcttgcgaa catttcttg 24000
cattctgtgg gatgtctttt tttttttttt tttttttttt gaggcagagt ctcattctgt 24060
cacccaggct acagtgcggt ggtgagatga gatcatggct cactgcagcc tcgactttct 24120
gggctcagtg atccacctca ggatctgcaa atgtctttcc atttgtttgt gtcatctatg 24180
gtttctttca acagtgtttt gtagttcttg tagagatctt tcacctcctt ggttagatat 24240
atcctaggta ttttgtgtgt gtgcatatgg ctattgtaaa tgggattgca caagactaca 24300
ggcacatgcc accacacctg gataatttt aaattttttt gtagagacag gtctccctttt 24360
gttgcccagg ctggtctcaa actcctgggc tcaagtaatc ctcctgcctt ggcctcccaa 24420
agtgctggga ttacagatgt gagccattgc acctgacctg tttactcttg gtagtttctt 24480
ttgctgcgca gaagctcttt ggtttaatta ggtcccactt gtcaattttt gttttgttg 24540
caattgcttt tgtggactta gtcatgaaat atttaccaag gccaatatcc tgaagggtat 24600
ttgctagggt ttcttctggg atttttatat tctgaggtct tacatttaag tgtttaatcc 24660
atcttgagtt aattttttgca catggtgata gttaagggtc cagtttcatt ctgcatgtgg 24720
ttagccagtt atctcagcac catttattga gtagggattc cttcccagt tccttgttt 24780
tgtcagcttt ctcaaagatc agttggttgt aggtgtgtgg ctttatttct gtgttccta 24840
ttgtgttcca ctggtctgtg tttctgtttg tgcaccagtg ccatgttctt tttcactagc 24900
cttgaagtag agtttgatgt tgggtaatgt gatgcctcca gctttgttgt ttttgtttta 24960
gatcctttgg ctatttgggc tcttttttgg ttccatatga atttagaat agtttttct 25020
aattctgtga aaaatgacat tggtaatttg ataggaatag tgttgaatct atagattgct 25080
ttggggagta tggtcttttt ctttcttctt tctttctttt tttttttttt tggtgctgtg 25140
acttcgatgc aaaccaaggt tgctgcagac acagtatggt cattttaatg atattgattc 25200
ttctaatcca tgagtgtgga atgtgtttcc atttgtttgt gttatctgtg atttctttca 25260
acagtgtttt gtagttcttg tagagatctt tcacctcctt ggttagatat attcctaggt 25320
attttatgta catgtatgac tattgtaaat gggattgcat acttgatttg actctcagct 25380
cgaacattat tggtgtataa aaatgctact gattttgta tattgatttt gtatcctgaa 25440
actttaccaa agtctttat ctaggagccc tttagcaatt ctatgtatag agtaatatag 25500
tcagtggaga gatatttgac ttctttttcct attttggtat cttacttgat tgttctggct 25560
aagatttca gtactctgtt aaatatgagt gaaaagagtg gccaaccttg tcttattcca 25620
attcttaagg gtaatgcttc cagcttttc ccattcatat ggtgttgtct gtgggtttgc 25680
catagatggc tctttttatt ttgagttatg ttccttcaat gcctagtatg ttggaggtct 25740
ttattatgaa aggatgttga attttatcga aagctttttc tgcatctatt gagatgatca 25800
tgtggttttt gtttttaatt ctgttgatgc agtgaattgc atatattgat ttgcatatgt 25860
tgaaccaacc ttacatccca ggagtaaaac ctactggttg tggtgtatta acttcctaaa 25920
gtactgttgg gtttggtttg ctagtgtttt gttgaggatt tttatatctg tgttcatcaa 25980
ggatattggc ctgtagtttc tcttttttgat gtgtctttgc cagatttttgg tatcaggata 26040
atgctggctt tatagagtga tttggagagg agttggtatt ttggaatatt ttcagtagga 26100
ctggtaccag ttctttgtgc atctagaatt cagctgtgat ttttctggtc cagggctttt 26160
tttggttgat aggtttttta tttattacga ttcaattttg gaactcatta ttggtttgtt 26220
cagaatttct gtttttttctg agtcagtctt gggaagtttt atgtttccag gaatttatcc 26280
atttcctcta gatttctttt gctgtgcaga agttctttag tctaattagg tcccacttgt 26340
cagttttggt ttttgttgca attgctttttg aggactttct cttttctctct ctctttttttt 26400
tttttttttt cttgaaacgg agtcttaatg ctgggcgcgg tggctcacgc ctgtaatccc 26460
agcactttgg gaggcatagg cgggcggatc acaaggtcag gagatcgaga ccacggtgaa 26520
accccgtctc tactaaaaat acaaaacatt agctgggcgt ggtggtgggc acctgtagtc 26580
tcagctactt gggaggctga ggcaggagaa ttgcgtgaac ctggaaggcg gagcttgcag 26640
tgagccgaga tcgtgccact gcactccagc ctgggcaaca aagcgagact ccgtctcaaa 26700
aataaataaa taaataaata gaaacaaggt cttacctagg ctggagtgca gtggcatgat 26760
catggctcac tgcagcctca acctcccaag ctcaattaat cttcccatct cagtcttctg 26820
```

2806

```
agcagctgga gctacagata cacaccacca cacctggcta atctttaaaa attttttgtag  26880
caattgggtc tcattttgtt gcccagggtg gtgtcaaact tctgacctca agtgattctc  26940
ccacctttgc ctccaaaagt attgggatta caggtgtgag cccatttcct ctaaattttc  27000
tggtttgtgc acatagaagt gttcataata gtctctgagg atcttttgta tttctgtgga  27060
atcagttgta gtgtcacctt tgccattttc tgattgtgct tatatggagc ttccctcttc  27120
ttttctttgt taatctagct aggagtttat cgatcttgtt tatcctttca aaaaatcaat  27180
ttttttttgtt ttattgatcc tttgtatgga ttctttagtc tcaattttgt ttagttctgc  27240
tgttatttta gttatttctt ttcttctgct agctttgggg ttagtgtgtt ctcgtttatc  27300
tagtttccct agatgcaatg ttagattgtt aatttgagat ctttctaact tgatataggt  27360
gtttagtgct ataaacgttc ctcttaacat tgcttttgct gcatcccata tattttgata  27420
tgttgtgtct gttttcattt atttcaaaga atatttcaat ttctgcttaa tttcattgtt  27480
tattcaaaag tcattctgga gtatgttgtt tactttccat gtaatttgtg tggttctgag  27540
agatcctcag tattgatttc tattttttatt ttactatggt ctcagaatat atgcttggta  27600
tgatttcaat ttaaaaaaaa tttttgagac ttgctttacg gccaagcatg tggttgacct  27660
tagagtatgt tccatgtgca gcttcatcag catttatctt ggtgataaca tggattccat  27720
gacaggtatt aatggtacaa tttttatgtt ttaaaagtgg tagtttgcta aggaaaatat  27780
gaagagagct gatttcactt ttagtggttg tcatttaata aagtgagatg tgaggttggg  27840
cagggtagct cacgcctgta atcccaacac tttgggaggc aaaggtggga ggcacacttt  27900
agcccaggag ttcgagtcca gcctgggcaa catggcaaaa ccccatcgct actgaaaata  27960
caaaagttag ccaggcatgg tggcatatgt ctgtagtccc agctacttgg gaggctgagg  28020
tgggaggatt gcttgaactt gggaggttgg ggcttcagtg agccgtgatc acaccaccgt  28080
gctttagcct gggcaacaca gtgagaccct gtctcaaaaa aaataaatca agtgagatgt  28140
gagaaggaat ttttctattc ttgaaatgca tgtagggata gtctttatgc ctagtcaagc  28200
ctaaaacact tttttaaaaa gagatatttg ttatatatga ttaaggcagc tattataata  28260
ttactattct aagttactaa cttttgaaaa cttttttaaat tttgtagttt ttatgacatg  28320
ttagtaaatt tttatgatgg aactttttctt tactaacagg tgcattcctt gtaaaggttc  28380
tcggtttccc ccaacccttc cacgccctgc tgttgctata ttatccttta agcttcctta  28440
ctgtcagatt gcaacagaga aaggacaaat ggaggtatgt ggaagtctta ccttgacact  28500
ttgaatttga taatacagca cctgtgatac acacacttta aaattatcct gatggccagt  28560
attgaatatt cattactgta taattacata aataggggta gcagggaggg aagaggactg  28620
cttgggatca ccaggccacc tgattgccat cactgcttcc agggactttg tctacaaagt  28680
aaatgggtgt gactgtcaga gacccactgg ggaaagactt actctcagga tggggcatgt  28740
ccctgagaag aagtgcctcc atacattttg tgccataaca cctggcttgc ctgaccctag  28800
tcctagcctt gtgtcatcaa aagtcatttg aaatcttgca gttagttatt ctaaataaga  28860
aacaagttag cttttaaaaa tcttgtttac caaattctct gagcattaat tatgatagct  28920
aggaaactgt tttaaatgct gtattcctcc ccagctgcct tttttaagga taggggaaaa  28980
agttaagctg tagtatcaca ctagaattta aattgtaaaa taaacttata gaaaggaaga  29040
gttcagaaca tattttattc aaaaactggt atcttaagat aaatatttaa cgcttgcctc  29100
atattaaggt gatagttggc cttaagcaat tttatttgct tttataggag caattttggc  29160
gttcagttat atttcacaac caccttgatt atttagctaa aaatggttat gaatatgaag  29220
agagcactaa aaatcaagca acaaaagagc aacaggaact tttaatgaaa atgcttgcgg  29280
tgagtaaaat aaatatactg aaaacgttaa agttaaatgc ttttctatag gttgaatttc  29340
ttaaaggtct gtgcattagg actaagtccc acaacctaag attcttaagt ttttttttgt  29400
tgttgttgtt gttttttgtg cgacggagtc tcgttctgtc acccaggctg gagtgcagtg  29460
gtgcgatctc ggctcactgc aacctctgcc tcccgggttc acgcaattct gcctcagcct  29520
cccgagtagc taggattaca ggcacacacc accacgccta gctaattttt tttttttttt  29580
tttttttttt tagtagagat ggggtttccc tatgttggcc cgactggtct cgaactcctg  29640
acctcgtgat ccgcccgcct cagcctccca aagtgctggg attacaggtg tgagccacca  29700
cacccagcca ttcttaagtt ttatctggtg gtgttttccc ttgtaaagtt ctatcttcta  29760
gttggtcttg cagttaaaat tttttctttt tttttttttt aggcggagtt tcgctcttgt  29820
ttctcaggct gaagtgcagt tgtgcagtct tggcttactg caacctccac ttcccgggtt  29880
caagtgattc tcctgcctca accttccgag tagctgggac tacaggcgtg tgccaccatg  29940
cctggctaat ttttgtattt ttagtagaaa cagggtttca ccacattggt caggctggtc  30000
ttgaactcct gacctcaggt aattcacctg cctcggcctc cgaaagtgct gggatcacag  30060
gcatgagcca ccgtgcccag cctaaaataa ataaaacagt accttgtagc taagatcatg  30120
tgcaggaata aacatctcta gggctacttc ccttttgctt ttgcccatca gtctatgttt  30180
taacgggctc tcaaggtaac tgagaaccac tgctctagtt tctgttatta ttttacaaag  30240
tttgagtata tactgttttt taatctccag ggctgggcaa tcttaagaac tttgatcggg  30300
ctgttagata tgcctgcctt ttgtcatcct ctttgagtta ggcagctgtg tgtgatgaaa  30360
atttatttgt gaccagtggc caggttggt gtctagaata tttaagtaca tttatctttg  30420
gagcagggtg tcttaaagtt cctgtgcttg tgtccccact caaggttggt ttatggagag  30480
```

2807

```
gagtatagta tcatttcttc tttatttgtc ttacactaga ctttatgccc cagagggcag 30540
agacctgctc actgctgtat gccaggcact gacatggtgg cttaacacat agtagacctc 30600
gatatttgtt gacaagagtg aatggtccag acttttaatt ttaaaattgg agaaaaaagg 30660
ttcttagaga aaagtggtat atgagaccac agagcaaatt gccactcttg tctccaaaag 30720
gtagtactca ctactgtcac ctttatgcaa catggcctta agtttggtat taagaaaact 30780
cagtttattg tagaaaaagt tttattcctt ttataaagtg ttacttgtgg tccaggaact 30840
agtagccttt ttatttgtac aacacatata aggaaacata tttcatgtat ttgctattta 30900
gcctagagga gcttttccct gtggcagtgt ttctcatatc aaaaatacca ggggactcat 30960
atcaaagatg ccagggcagg aggatatctt gagcccagga gttcaagggg attgttgagt 31020
tcttctttag cattcctgac ccccgggcaa atgcctttag ttcagaatag tcactgtgga 31080
aaccagacta ttccttttta tttctttttt tttttttgaa acgaagtctc gctctgttgc 31140
ccaggctgga gtgcagtggc gcgatctctg ctcactgcaa gctccgcctc ccaggttcac 31200
gccattctcc tgcctcagcc tcccgagtag ctgggactac agttgtctgc caccacacca 31260
gctaattttt tgtattttta atagagactg tgtttcaccg tgttagccag tatggtctcg 31320
atctcctgac cttgtgatcc acctgtctca gtctcccaaa gtgctaggat tacaggtgtg 31380
agccactgcg cccggcttcc tttttatttc taaatgcccc ctgaggcagt gtaccatccc 31440
gattaagaag tactgattat agataaatga tactaaaaat cttgaaaagg gcatccaggt 31500
gaatatctaa agcttttgtg ctgatggatc agacatggaa tatctaagta agaaaatagt 31560
tctaatacac tatgaattag gagaccctta gtaatcttca aaataccaac ttttctcagt 31620
ttgttgtttt tctttttttgt attttttaga gaaagggtct cactctgtta cccaggctag 31680
agtacagtgg caagattgta actcactgca gcctcaacct cctgggctct agtgaacctc 31740
ctgtctcagg ctcctgagta gataagactg caggtgcatg ccaccacgcc cagctaattt 31800
attttttgta gttatagggt ctcactgtgt tgcccaggtt agtctcaaac tcctggcctc 31860
tagcagtccc tctgccttgg ccttccaaag tgctaggatt acaggtgtga gccagcacac 31920
ctggccccct tgattttttt tttttttttt ttttgagac agagtctcgc tttctcgccc 31980
aggctggagt gcagtggtgc aatcttggct cactgcaacc tccacctccc gggttcaagc 32040
gattctcctg cctcagcttc ccgagtagct gggattacag gcgcacgcca ccacgcctgg 32100
ctaattgtgt ttttagtaga gacggggttt gccatattg gccaggctga tctcgaactc 32160
ctcacctcat gatccaccca tctgggcctc ccaaagcact ggtattacag gcgtgagcca 32220
ccgtgcccag cctccccctt gaatttttta aacaaatttc ttaattttct tgcaattagt 32280
agattaaagt ggtatgtaat atttcatcaa atctaagcca ctgtttattg catagtgcac 32340
cattacttta ttcatttaag ccatggagac ataaaaatgc tgccaaactg acccaccatt 32400
aattgtaatt aattgtaatt ccaatttcag agatgttaaa acttgtaaaa atgtgcatct 32460
tagaattagg gagatagagt agctagaaaa ctattgtctc agttttacta gtagtgtcag 32520
tatctttaaa aagtttttact tgatgttatt tgatctcccc ccccccccc ttttttggatt 32580
agctttcttg taaactggag cgagaattcc gttgtgtgga acttgctgat ctaatgactc 32640
aaaatgctgt gaatttagcc attaaatatg cttctcgctc tcggaaatta atactggctc 32700
aaaaactaag tgaactggct gtagagaagg cagccgaatt gacagcaacc caggtggaag 32760
aggaagaaga agaagaagat ttcagaaaaa agctgaatgc tgggtaagaa ataatttagt 32820
tgtttgaatt ttcctttact gtcttgaatg ttaagttggt ctttgcatag ctctttattg 32880
aataatatta ttttctctta gttacagcaa tactgctaca gagtggagcc aaccaaggtt 32940
cagaaatcaa gttgaagaag atgctgagga cagtggagaa gctgatgatg aagaaaaacc 33000
agaaatacat aagcctggtg agatacattt tcaagcccat aaatcatgag aactatcatg 33060
gatgtggctt ttcccatttt gcttaactga gggaaattga atactcatac ttttttttcag 33120
acctctttgc tatctggttg ttgtatattg aggatgacta tattttcccc atttacatta 33180
tattgcttta ttttaatctg taggacagaa ctcgttttcc aaaagtacaa attcctctga 33240
tgtttcagct aagtcaggtg agaaatattt ataaatttgt aatatcaagg aaatttttgca 33300
agtcatctgc aaagtgacac atctacgcaa atacacctta actcttaagg ccacttttgg 33360
tgtgtgtgtg tttatgtttt tgtttttta atctcagatg ttgtttgtga agctatggtc 33420
atttaacaga tgtttataaa atgcctattg agtgtcaggc attttactta atggtggata 33480
cagaagtcaa acagacatgt gtggttgatc tctgttttaa tgctatttta gcccagctga 33540
gaagacagat gttgaagaca gatctgggta tcactgagga agcatgcagg atactggaga 33600
aacagttaaa aggaattgaa ggctgggcgc agtggctcac gcctgtaatc ccagcacttt 33660
gggaggccgg agtgggcgga taacgaggtc aggagttcta gactagcctg gccaacacgg 33720
tgaaacccca tctctactaa aaatacaaaa attagctgag ggtggtggta tgtgcctgta 33780
atcccagcta ctcgggaggc tgaagcagga gaatcacttg aactcaggag gtggaggtag 33840
cagtgagccg agatcgtgcc attgcactcc agcctgggca atggagtgag actccatctc 33900
aaaaaaaaaa aaaaggagtt gaaaatggtt gcgtacaggg agtgggcctg ggggataaga 33960
gaaggttgaa gtaaggcact gctggccctt ttttggtggg gagcataaac cttatagtac 34020
catttgactt tttaaactgt ggacatatgt tactttgatt taaaaaaatt aacttaaaaa 34080
acatgtagaa tatgaaaaga gcgtatgaca catagctgtc atctagccag tggtggagga 34140
```

2808

```
tgggtaggga cttcaaggca ggcctcatgg agtgtttaca gcagagacct gaaggatgaa 34200
taacagtcag caaggcaaag gtgcatggga acaggagcag aagagaagca tttgggctta 34260
aggaacagta tgtgtgaact gaaggctgca aaagggtggt gtgaaaagct cagagagcaa 34320
agagaaagtg gtgctgaagg gtttcggagt gatgggcagg agccaagtca tgcagatctg 34380
tgtaggccat attaaggatt ttggtctttt ttttatttta ttttattttt tttaatagag 34440
atggggtgtc actctgttgt ccaggctggt ctcaaactca agcaatttcc tcacctccac 34500
atcccaaagt tgttggacct gcaggtgtga gccaccacac ccggtcagga ttttgctctt 34560
tattctaagg tcactgagag actgttgtag gttttaagca gaggtatagc atggcacact 34620
gtgctgaaga agaacagata atagactact ggccaggtgt gatggctcat gtctgtaacc 34680
tcagcatttt gagaggccaa ggtggaagga tcacttgaga ccagacgttt gagaccagcc 34740
ttggaaacaa tgaaacccta tctctacaaa aagtaaataa taaaaatatt agccaggcat 34800
ggtagtacac accggtagtc ccaggtattt gggaggctgg gacaggagga tatcttgagc 34860
ccaggagttc gagggtgcag taggctatgg ttgcaccact gcactccagc ctgggtgaca 34920
gagcaagacc ctgtatcaaa aaataaatag gccaggcgtg gtggctcacg cctgtaattc 34980
cagcactttg ggaggccgag gcaggtggag cacttgaggt caggagttca agaccagcct 35040
ggccaaaatg gtgaaaccac atctccacta aaaatacaaa aaaaaaatt agccgggcat 35100
ggtggctcat gcctgtaatc ccagctactc gggaggctga ggcaggagaa ttgcttgaat 35160
ccaggagtgg ggagttgcag taagtggaga tcacgccact gcactccagc ctaggtgaca 35220
gagtgagact tcatctaaaa taataataag aagaagtaaa taaaaattaa aaaataaaga 35280
gactacaagc tgggcgtggt ggctcacacc tgtaatccca gcactttggg aggctgagga 35340
gggtggatca cgaggtcagg agattgagag catcctgaag aacacagtga aaccccgtct 35400
ctactaaaaa tacataaaaa ttagccgggc atggtgacag gcacctgtaa tcccagctac 35460
ttgggaggct gaggcaggag aatggcgtga acccgggagg cagagcttgc agtgaggtga 35520
gatcatacca ccgcactcca gcctgggcga cagagcgaga ctccatctca aataaataaa 35580
taaacaaaca aactacagag gcagtccaaa tgagattgaa taagggcctg agctagggtg 35640
gtgatggtga tgttagaaag aatgggcaga gttggagagc tatttctgaa gatgatgaag 35700
agagtgtagg agttcagggc gtaaagagtg attctcagtt tcttgtaata gaagaaaaac 35760
ttaagcacat ttgaatcttg aaggattaat ttgaacattc agtgattcat gaatcaggga 35820
ggcaccaaac cgcaaggggc tagcactctg ccaggagaga caaaagggga aacttttata 35880
aagtattttc agaaacgaga taaataaaac aatttttatt ggctagatgg aaaggttttt 35940
ttgtttgttt tttttgtttg gtggggggggg tgcggataca gggtatcttg ctttgtcact 36000
cagactggag cagagttgga gtgcagtgat gcagtcctag ctcgctacag ccttgaactc 36060
gtatgctcag gtgatcctcc tgcctcaccc tactgagtag ctatgactac agttgtgcat 36120
caccatgcct ggttaatttt ttgtgtgtac tttttgtaga gagaggagct tgctttgttg 36180
ccgaagctgg tctggaactc ctgggcttaa gtgaccctcc tgccttagcc tcccaaaatt 36240
ttcggattac aggcacaagt ggccatgctc agctagaaat ttcctgcctg cctgcctgcc 36300
tgcctgcctg cctccctccc tcccttcctt cttccctccc tccctccctc ctcttccccc 36360
cgccagggtg tgactgtcat ccaggttaga gtgcagtggc gtgattatgg ctcactgcag 36420
cctcaacccc ccagacccaa gcgatctttc cacctcagcc tcccaagtaa ctaggaccac 36480
aggcatgtgt caccatgtct ggctagtttt gttttggttt gggttttttg ttttgttgtt 36540
ttttgttttt gtagagacag ggtctcccta tgttacccat gctagtctta aactgggctc 36600
aagcagtcct ccctcctcag cctcccaaag tgctgggatt acaggcttaa gccaccatgc 36660
caggaaagct cttaattaga gattagtttg ttaacactgg cttgagtact tgagtgaatg 36720
atggtgccat ttcctaagtc aggaaacact agagaaaagc agatttagag aggaagatga 36780
tgaattactg taaggtgagt agaatgtcgt gaagacagat atttgaatca ggagctcagg 36840
gaagtattct ggtcaagaga tacaaagtga aaatcattgg cataagtata gcaatttaaa 36900
ccatgagcat gggtaagcaa gcattggggg agaatgtaaa gcaaaagaa aaatgagctt 36960
aagcctaggg aatctccaac atttgagcat caggtagagg aagaggagga accaactatt 37020
ggaacacaat gagtccacag gtccagagag gaaggaacta agtcagggaa tgcagtatct 37080
cagaagtcaa gagaggacaa agtatcaaga agtaaggaac agtcagctat gtgggatgcc 37140
attgatagag caaacaaggt gactgaaagg tatccaccag atttgacaat gtagagatca 37200
ctgagggcct tagcaagagg agattctgta gggtggtaga gctggaagtg ctatattgta 37260
tggaggaatg tatgggtggt gaggaaatga taatagtgtc aacagttctt ggaaaaattt 37320
ggctggatga ccgggcgtgg tggctcatgc ttgtaatccc agcactgtgg gaggccaagg 37380
cagacggatc acctgaggtc aggagttcaa gaccagcctg gccaacatgg tgaaaccctg 37440
tctctattaa aaatacaaaa attagccggg cgtggtagca ggcgcctgta atcccagcaa 37500
ttcgggaggc tgagacagta gaatcgcctg aacctgggag gtggactttg cagtgagccg 37560
agatcacacc attgccctcc agcttgggca acaagagcga gactctgtct caaaaaaaaa 37620
aaaaaatggc tggatggagg aggcgagaga aaatggtgac tggaaggaat gtggggtaga 37680
gaaggtttgt tttttgtttc tttttaagtt gggagacttt aggggccaat aaataggggaa 37740
aagtcaaaga tgtaggatgt caagaaactt gataggtcag gttttctgac aaagcaggag 37800
```

2809

```
ggcatgggat gcagaacaca agtaaaggga ttactaacct tagctcagac gagctgccac   37860
tcttccgcag taacagaaga taaaagatct gtacatactg aatatgtttc atagtggcac   37920
gttggggtgg ttcacattta atagctttta ttttggctta gaagtaggaa agaggatatc   37980
tgttgttaat agttttgaaa agttgcaaaa tacatttgtt ttcatttaat ggggattaaa   38040
atactctgtc tagtattata gatgtcagaa gtcatctatt ttctaccatt attaagcaag   38100
ggtttctttt ttgtgaaagg tgcagttacc tttagcagcc aaggacgagt aaatcccttt   38160
aaggtaaact cttccaagtg atgttttata ttatttaaat acatttgtat acaaagaaat   38220
atttccaaat gatgagatga ctctccccag acttggaggc atgaaagact gatctgtgtg   38280
gaaacagaag aaagcagcac ttgggctgag agttgtcttt tctacttacc ttctaagtac   38340
ctatggtttt gaaagatacc tctgtctttc ttggggatgt ggtatttggg aatatacgta   38400
tcattcttaa tttggattgt accaaatgta tttagttcta aagatgagat ggcaatacaa   38460
acttaacaga aatttcaaga aaaaataagt ctcttgggat tttatttttc ttctttaaac   38520
atacagtgct aacactagtt tgctctttag gtatcagcca gttccaaaga accagccatg   38580
tcaatgaatt cagcacgttc aactaatatt ttagacaata tgggcaaatc atccaagaaa   38640
tccactgcac ttagtcgaac tacaaataat gaaaagtctc ccattataaa gcctctgatt   38700
ccaaagccga agcctaagca ggtactgttt cagctaccct catctgcagt aagcagcatg   38760
ggatctgttt gtcttcagtt ttgttcactg tttcagatat aggataggag gttctgattg   38820
tttacaattg tcttgctagg gaagtggggt caattctgtt tttgcagcta ggcacagtgg   38880
cacatacctg tagtcccaga tactcaggag gctgaggtgg gaggatcact tgagcccagg   38940
agtttgagtc cagtctggga aacataagag ataccccatc tgaaaaaaac aaaccccaaa   39000
acagttgtgt tttttgtttc agaatcactc cctattctgc ctcgtgagtt gttacacact   39060
ttgtagcaga ttctgacttc caagatcact atcctgctcc ccctgtcttt tttgagacag   39120
aggctcactc tgtcacccag gctggatgga gtgcagtgtc aggatctcag ctcactgcag   39180
cctctgtctc ctgggttcaa gcaattctca tgcctcagcc tcccgaggag ttgggattac   39240
agaggcctga catcacgccc agctaatttt ggtattttta gtagagatgg ggtttcagca   39300
tgatggccag gctggtctca aactcctggc ctcaagtgat ccacccacct cagcctccca   39360
aagtgctggt attacaggca tgagccaccg cacccagcct atcctgcccc tctccttgtt   39420
tttacagatc actttttaaa aatatatata ctcagacccc agaagctcag acatttatct   39480
gtatttttat taaaatcacc cagatagttc tgatgtatat tcgtatttaa tagtggctga   39540
tattgtacat ggccctaatt tttccttgtt ctgagtcctg atttttccac tctgataagt   39600
atttgatccc ggattagtca ttggtaaaat agatctattg cttatctttt ctatttaata   39660
taattgtatt catttagaaa acatggaatt taggccagcc gcggtggcag gtgcctgtaa   39720
tcccagctac ctgggagggt gagtcaggag aaccacttga actcggaggg tggaggttgc   39780
agtgagccga gatagcgcca ctgcactcca gcctgggcaa cagagtgaga ctccgtctca   39840
aaaaaaaaaa aaaaaaaaag gaaaacatgg aatctgaagt gtagtttttt ggttttgcat   39900
gtgtttgcct atttatttac aactgagaac tccagatttc acatgttagt ataagaattc   39960
tcaataatta tagatgtttc ttcacatttt tcagaacgtg cttataaaac atataaaatt   40020
atactagatg ttattgcagt attcatgttt gtttttatag gcatctgcag catcctattt   40080
ccagaaaaga aattctcaaa ctaataaaac tgaggaagtg aaagaagaaa atcttaaaaa   40140
tgtattatct gaaaccccag ctatatgtcc tcctcaaaac actgaaaacc aaaggtcagt   40200
acatagagaa atttagcatg cagtgaccaa gtaaaaagta tacagtagca gcaatacaaa   40260
attatgcaat gctgttattc cttaatacaa ataatacatt ggcattggta gtgggcattc   40320
tggacacttg tgactataag gaagccacaa atattaatgt ctatttataa tatttattaa   40380
aatatgcttt aataaattgt atatttttaa attgtggata tattttattg ggacattata   40440
ttttgtaatt aatttttttgt ttgttttaa atagtttaat ggggagaaat agcaaaagat   40500
acaaaaagaa gagtgataat aagtagtttc atccaactaa tttctgtctc caaaaacaat   40560
cactgcaaca agtttcttgt ggaactttcc aaaattattc tatttatgtg caaatacata   40620
tttgtctatt ttttgtttta cacattattc tgtaccttac tttttttaact taacaatagc   40680
ttttgtagct tatttttatat tactacataa agaacttctt tatactggct gggcatggtg   40740
gctcacgcct ataatctcag cactttggga agccgaagca ggcggatcat ctgaggatgg   40800
gagttcgaga ccagcctgac caacatggag aaaccctgtc tctattaaaa atacaaaatt   40860
agccaggctt ggtggcacat gcctgtaatc ccagcaaatc ggaaggctga ggcaggagaa   40920
tcacttgaac ccgggacgcg gagattgcag tcatctgaga tcacaccgct gcactccagc   40980
ctgggcaaca aaagcgaaac tctgtctcaa aaaaccaaa aaaacaaaaa gaacttcttt   41040
atactatagc aaggctatca gaaaaagtaa atacataaat ggatggatag atagaaaaat   41100
aagagcttta atctttgtgt atccattgaa tagacatgtc atagttcatg tagttctcta   41160
cttgtggaca aaagatggtt accggtcttt tgctagtaca gacagtactg caatgaataa   41220
ttttatatga atagcatttc tcacagatgc atatatagct ataagatgga ttcatgtatg   41280
gttcaagtta atctgcactt ataattccaa tgccagattg ttctgcattg atgttgtatc   41340
attttataca cctttagcaa tatgagtatt cctatttgct catatcctct ttgtccacaa   41400
acacagtatg ttacctattt tcttgatctc tactatgctg gatttctttg tatttatta   41460
```

2810

```
tttttttctga dacggagttt cgctcttgtt gcccaggctg gagtgcattg gcacgatctt   41520
ggctcactgc aacctccgcc tcccaggttc aagcgattct cctgcctcag cctcctgagt   41580
agctgggatt gcaggcatac gccaccatgc ctggctaatt ttatatcttt ttttttttt   41640
taaatacttt taagctctag ggtacatgtg cacaacattc aggtttgtta catatgtaca   41700
catgtgccat gttggtgtgc tgtgctcatc atttacatta ggtatatctc ctaatgctat   41760
ccctccctac ttcccccacc ccacaacagg cccaagtgtg tgatgttccc cttcctgtgt   41820
ccaagcgttc tcattgttca gttctcacct atgagtgaga acatgcggtg tttggttttt   41880
tgtccttgag atagtttgct gagaatgatg gttcccagtt tcatccatgt ccctacaaag   41940
gacatgaatt catccttttt tatggctgta tagtattcca tggtgtatat gtgccacatt   42000
ttcttaatct agtctatcat tgatgaacat ttaggttggt tccaagtctt tgctattgtg   42060
aatagtgcca caataaacat acgtgtgcat gtgttttat agcagcatga tttataatcc   42120
tttgggtata tacccagtaa tgggattgct gggtcaaatg gtatttctag ttctagatcc   42180
ttgaggaatc gccacaccgc cttccacaat ggttgaacta gtttacagtc ccaccaacag   42240
tgtaaaagtg ttcctatttc tccacatcct ctccagcacc tgttgtttcc tgacattta   42300
atgattgcca ttctaactgg tgtgagatgg tttctcactg tggttttgat ttgcatttct   42360
ctgatggcca gtgatgatga gcatttttc atgtgtctgt tggctgcata aatgtcttct   42420
tttgagaagt gtctgctcat atccttcgcc cactttttga ttgggtttgt ttttttcttg   42480
taaatttgtt tgagttcttt gtagattctg gatattagcc ctttgtcaga tgggtagatt   42540
gcaaaatttt ttcccgttct gtaggttgcc tgttcactct gatggtagtt tcttttgctg   42600
tgcagaagct ctttagttta attagatccc atctgtcaat tttggctttt gttgccattg   42660
cttttggtgt tttagacatg aagtccttgc acattcctat atcctgaatg gtattgccta   42720
ggttttcttc tgggttttt atggttttag atctaacatt taagtcttta atccatctgg   42780
aattaatttt tgtataagat gtgaggaatg gatccagttt cagctttcta catatggcta   42840
ggcagttttc ccagcaccat ttattaaata gggaatcctt tccccatttc ttgtttttgt   42900
catgtttgtc aaagatcaga tggttgtaga tgtgtggtat tatttctgag ggctctgttc   42960
tgttccattg gtctgtatct ctgttttggt accagtactg tgctgttttg tatagtttga   43020
agtcaggtag cgtgatgcct ccagctttgt tcctttggct tatgagtgac ttggcaatgc   43080
gggctctttt ttggttccat atgaacttta aagtagtttt ttccaattct gtgaagaaag   43140
tcattgatag cttgatgggg atggcattga atctataaat tgccttggac aggatggccg   43200
ttttcacgat agtgattctt cctatccatg agcgtggaat gttcttccgt ttgtttgtgt   43260
cctctttat ttcattgagc agtggtttgt agttctcttt gaagaggtcc ttcacatccc   43320
ttgtaagttg gattcctagg tattttattc tctttgaagc aattgtgaat gggagttcac   43380
tcatgatttg gctctctgtt tgtctgttat tggtgtataa gaatgcttgc gattttttgca   43440
cattgatttt gtatcctgag actttgctga agttccctat cagcttaagg agatttttggg   43500
ctgagacgac ggggtttct aaatatacaa tcatgtcatc tgcaaacagg tacaatttga   43560
cttcctcttt tcctaattga atacccttta ttttctttct ctgcctgatt gccctggcca   43620
gaacttccaa cactatgttg aacagaagtg gtgagagagg gcatccctgt cttgtgccag   43680
ttttcaaagg gaatgcttcc agttttgcc cattcagtat gatattggct gtgggtttgt   43740
cataaatagc tcttattatt ttgagataca tcccatcaat acctaattta ttgagagttt   43800
tttagcatga agcgttgttg aattttgtca caggcctttt ctgcatctat tgagataacc   43860
atgtggtttt agtctttggt tctgtttata tgctggatta cgtttatttta tttgcgaatg   43920
ttgaactagc cttgcatccc agagatgaag cccacttgat aagttttttg aagtgctgct   43980
ggatttggtt tgccagtatt ttactgagga ttttttgcatc gatgttcatc agggatattg   44040
gtctaaaatt ctctttttt gttgtgtgtc tgccaggctt tggtatcagg atgatgctgg   44100
cctcataaaa tgagttaggg aggattccct ctttttctat tgattggaat agtttcagaa   44160
ggaatggtaa cagctcctcc ttgtacctct ggtagaattt ggctgtgaat ccatctggtc   44220
ctggactttt tatttggttg gtaggctatt aattattgcc tcaatttcag agcctgttat   44280
tggtctattc agagattgaa cttcttcctc gttagtctt gggagggtgt gtgtgtccag   44340
gaatttatcc atgtcttcta gatttttctag tttatttgca tagaggtgtt tatagtattc   44400
tttgatggta gtttgtattt ctgtgggatc agtggtgata tccccttta catttttttat   44460
tgcatctatt tgattcttct ctcttttctt ctttattagt cttgctagcg gtctatcagt   44520
tttattgatc ttttcaaaaa accagctcct ggattcattg atttttttgaa ggctttttttg   44580
tgtctctatc tccttcagtt ctgctctgat ctcagttatt tcttgccttc tgctagcttt   44640
tgaatatgtt tgctcttgct tctctagttc ttttaattgt gatgttaggg tgtcaatttt   44700
agatatttttc tgctttctct tgtgggcatt tagtgctata aatttccctc tacacactgc   44760
tttaaatgtg tcccagagat tctggtatgc tgtgtctttg ttctcgttgg tttcaaagaa   44820
catctttatt tctgccttca tttcgttatg tacccagtag tcattcagga gcaggttgtt   44880
cagtttccat gtggttgagc agttttgggt gagtttccta atgctgagtt ctagtttgat   44940
tgcactgtgg tctgagagac agtttgttat aatttctgtt cttttacatt tgctgaggag   45000
tgctttactt ccaactatgt ggtcagtgtt ggaataagtg cgatgtggtg ctcagaagaa   45060
tgtatattct gttgatttgg ggtggagagt tccgtagatg tctattaggt ctgcttggtg   45120
```

2811

```
cagagctgag ttcaattcct ggatatcctt gttaactttg tctcgttgat ctgtctaatg  45180
ttgacagtgg ggtgttaaag tctcccatta ttattgcgtg ggagtctaag tctctttgta  45240
ggtctctaag gacttggttt atgaatctgg gtgctcctgt attgggtgca tatatattta  45300
ggatagttag ctcttcttgt tgaattgaat tgatcccttt accattatgt aatggccttc  45360
tttgtctctt ttgatctttg ttggtttaaa gtctgtttta tcagagacta ggattgcaac  45420
ccctgccttt tgttgttttc catttgcttg gtagatcttc ctccatccct ttattttgag  45480
cttatgtgtg tctctgcaca tgacatgggt ctcctgaata cagcacactg atgggtcttg  45540
actctttatc caatttgcca ttctgtgtct tttaattgga gcatttagcc catttacatt  45600
taaggttaat attgttatgt gtgaatttga tcctgtcatt atgatgttag ctggttactt  45660
tgctcattaa ttgatgcagt ttcttcctag ccttgatggt ctttacaatt tggcatgttt  45720
tttcagtggc tggtaccggt tgttcctttc catgtttagt gcttctttca ggagctcttg  45780
tagggcaggc gtggtggtga caaaatctct cagcatttgc ttgtctgtaa aggattttat  45840
ttctccttca cttatgaagc ttagtttggc tggatatgaa attctgagtt gaaaattctt  45900
ttctttaaga atgttgaata ttggccccca ctctcttctg gctcatagag tttctgccga  45960
gagatcagct gttagtctga tgggcttccc tttgtgggta acctaacctt tctctctgaa  46020
cattttttct ttcatttcaa ctttggtgaa tctgacaatt atgtgtcttg gagttgctct  46080
tctcgaggag tatctttgtg gcattctctg tatttcctga atttgaatgt tggcctgcct  46140
tgctaggttg gggaagttct cctggatagt atcctgcaga gtgttttcca acttggttcc  46200
attctccctg tcactttcag gtacaccaaa caaacgtaga tttggtcttt tcacatagtc  46260
ccatatttct tggaggcttt gtttgtttct ttttactctt ttttctctaa acttttcttc  46320
tcgcttcatt tcattcattt gatctttgat cactgatacc ctttcttcca gttgattgaa  46380
ttggctactg aggcttgtgc attcgtcacg tagttctcgt gccatggttt tcagctccat  46440
caggtcattt gaggagttct ctacactggt tattctagtt agccattcgt ctaatctttt  46500
ttcaaggttt ttagctcctt tgcgatgcgt tcgaacttcc tcctttagct cggagaggtt  46560
tgatcgtctg aagccttctt ctctcaactc gtcaaagtca ttctccgtcc agctttgttc  46620
cgttgctggt gaggagctgc gttcctttgg gggggagag gtgctctgat ttttagaatt  46680
ttcagctttt ttgctctgtt ttttccccaa tctttatggt ttcatctatc tttggtcttt  46740
gatgatggtg acgtacacat ggggttttgg tatggatgtc ctttttgttt gttagttttc  46800
cttctaacag tcaggaccct cagctgcagg tctgttggag tttgctggag gcccactcca  46860
gactctgcct gggtatcagc agcggaggct gcagaacagc aaatattggt gaacagcaaa  46920
tgttgctgcc tggtcattcc tctggaagcc tcgtctcaga ggggtacccg gccgtgtgag  46980
gtgtcagtct gcccctactg ggggtgcct cccagttagg ctacttgtgg atcatggacc  47040
cacctgtcac tgaggaggca gtctgtccat tctcagatct caaactctgt gctgggagaa  47100
ccactactct cttcaaagct gtcagacagg gacatttaaa tctgtagagg tttctgctgc  47160
ctttgttcgg ctatgccctg cccccagagg tggagtccac agaggcaggc aggactcctt  47220
gagcttcagt gggctccacc cagttcgagt ttcctggctg aggctgccgc cttgtagttc  47280
aatctcagac tgctgtgcta gcaatgagtg aggctccatg ggcatgggac cctctgagcc  47340
aggagtggga tataatctcc tggtgtgccg tttgctaaga ccattggaaa agcacagtat  47400
tagggtgggg gtgacccaat tttccaggtg ctgtgtgtca cagctttgct tggctaggaa  47460
agggaatttt ctgacccctt gcgcttcccg ggtgaggtga tgccttgccc tgcttcagct  47520
cacactcggt gtgccacacc ccctgttctg cgcccactgt ccgacaagcc ctagtgagat  47580
gaacctggta cctcagttgg aagtgcagaa atcacccgtc ttctgcatcg ctcatgctgg  47640
gagctgtagg ctgaagctct tcctattcga ccatcttgga accgcttaat tttgtatctt  47700
tagtagagac gaggtttctc catgttggtc aggctggtct caaactcctg acctcaggtg  47760
atctgcccac cttggcctcc caaagtgctg gaattacagg tgtgagccac cactcctggc  47820
cttattttta atatatccgt taaatttgaa aagtcacaat tttggcctgg cacagtggct  47880
cacgcctgta atcccagcac tttgggaggc tgaggtgggc ggatcacttg aggtcaagag  47940
ttcgagacca gcctggccaa catggtgaaa ccccatctct attaaaaata caaaagtttg  48000
ccaggtatgg tggctcatgc ctgtaatccc agctacttgg gaggctgagg caggagaatc  48060
gcttgaacac aggagacgga ggctgcaatg agccaagatt gtgccactgc actccagcct  48120
gggcaacaga gtgagactcc atctcagaaa aaacaaaaag aaagaacag tcacaatttc  48180
atttttacca taatatatct cattttttctc atgctgaaca gtccaggag aaaaataata  48240
ataaagtata tcttattttc ttaatgactt tatgttaacc agtttgaggg agtggctgtg  48300
gttttcacat ttcctgtttt gttctgaatt taatttaggt cttaaacagt gaaaatttta  48360
tttaagaaaa ttgataggcc gggcatagtg gctcatggtt ttttttccgc ttaacacttt  48420
tttcttttg ctcttgttgc ccagactgca atgcaatggc acaatctcgg ctcactgcaa  48480
cctctgcctc tgggttcaag tgattctcct gtctcagcct cctgagtagc tgtgattaca  48540
ggcatgcgca accatgcccg actaattttg tattttttagt agagatgagg tttctccatg  48600
ttggtcaggc tggtcttgaa ctcctgacct caggtgatcc acccgccttg gcctcccaaa  48660
gtgcagggat tacaggtgtg agccaccatg cctggcccgc ctaacacttt ttttgagaca  48720
gtcttgccct gtcaccaagg ctggagtcca ctggtgcaat ctcagctcac tgcaacctcc  48780
```

2812

```
accttctggg ttcaagcaat tctcatgcct cagcctcctg agtagctggg attacaggtg 48840
tgtgccacca tgcccactaa ttttgttatt ttttggtaga gatggagttt gccacgttgg 48900
ccaggctggt ctcaaactct tggcctcaag cgatttgccc atctcggctt cccaaagtgc 48960
tggggttaca ggtgtgagcc accacacctg gccaagccta acactttgga aggccaacat 49020
gatcagttag cttcagccca ggagattgga accagcctgg gcaatgtagg gagaccccat 49080
ctctaccaaa agttttaaaa tcagccaggt gtgtgtggtg gcacatgcct gtagtcccaa 49140
ctgcttgaga gtctgaggca ggaggattgc ttgagcccag gaatttgagg tggcagtgag 49200
ctgattatac cactgcactc cagcctgggc gacaaagcaa gacccttct cttaaaacaa 49260
caacaaagaa gattgataat ttaatttttc atactatcag ttggttatac aaaaaactta 49320
cttttgaaat tttaaggaat taccactatt gaaactaata ttttgtcaca gatgttgata 49380
tacttaatca gaaatgtcca gttttagcca ggtggctgtg cactcttgta gtcctagcca 49440
ctcagaaggt tgagtcagaa gggttgctta agcccagaag tttgaggcca gcctaggcaa 49500
catagtgaga ctcacgtctc tttaaaaaac aaagaaagaa atgttcaatt ttggtttct 49560
ttttaaaaat agctgtttag aagtagatga ttgcaggcca ctaagtagac ttgtgacatt 49620
gccccaagtt tcattaaaat gggtcttcat taattttgg aaattcagga acctttgtta 49680
taccttgatt tttacttgtt ttgatttgtt ctgttatttt tctggaaatc ggtttacgtt 49740
aagattactt aaaatttgca tattttcaga aattgggcaa atggttatgg tcatactagt 49800
aattttttaa taaaaatttt tttaacctta aaaagtttag acttttatt taggattcat 49860
ttaggttcag cctagtgagg ggcgtatagc tgctgggtta aacataagag actctgggcc 49920
aggcacagtg gctcacgcct gtaatcccag cactttggga ggccgaggcg agtggatcat 49980
gaggtcagga gttcgagacc cacctggcca atatggtgaa accctgtctt tactaaaaat 50040
acaaaaatta gctgggtgtg gtggcgcgta cctgtagtcc cagctgtttg ggaggctgag 50100
gcaggagaat cacttgaacc tggaaggtgg aggttgcagt aagccaatac agagccactg 50160
tactccagca taggggaaag agctagactc catctctaca aaaaaacata gactttggag 50220
tcaaattgcc tggttgttgg atcccaggtc tgagttttac tgtttgtgta acctgggata 50280
ggttatttca catctctgag cctcccttt ctcacttatg gaatggagat aataactgta 50340
tccatctcat agtgttattg tcatttaaat gaggtactat acataaagct tttagagtag 50400
tgcctggtag atagtaagtg atcagtaaat gttaaatatt tgcattaaac cttcacttgt 50460
gtgacttaaa gacaatttgt attgtgagtg gaatctaatg aaatgtacaa atgtgctgtg 50520
tccgtgcttc acctaatgct gatgcaggtc agctctgaga gcaagggtga ggcgatggca 50580
aaggggcttg agaaaagtcg tgaggaattc aaatagctgg tttggggaaa tagaaaaaga 50640
gcctaccaag gacatgtggt aggccacaag ggctaagtga ggttggagac cttgagcctg 50700
tcaacattca ttaaaaagtt gaaagtacag agttcatggt tgctgcactt ggaaaataca 50760
aacgtgagtg atcctttga attgacctta caaaggattt tccagttcat tgatcctgca 50820
gtctccaggc agtttaaagt aatatgaggc caggcacggt ggcttatgcc tgtaatccca 50880
gcagtttggg aagccgaggc gggcagatca cgtgaggtca ggagtttgag accagcctga 50940
ccaacatggt gaaaccccat gcaaaaaatt agccaggtgt ggtggcgcat gcctgtaatc 51000
ccagctactt gggaggctga ggcaggagaa tcgcttgaac ccaggaggcg gaggttgcag 51060
tgagctgaga tcgcgccatt gcactccagg ctgggtgaca gagtgagact ctgtctcaaa 51120
aaaaaaaaa aaaaaaagt aacatgaatt aacaagtgta actgtgtctt ccttactta 51180
tataatagat gtcagagact tatggttgat tactaactta aaatcatgag gcactttaaa 51240
ctctgtctta agtataaaat gttttcacat aattgtgatt ttaggccaaa gaccgggttc 51300
cagatgtggt tagaagaaaa tagaagtaat attttgtctg acaatcctga ctttttcagat 51360
gaagcagaca taataaaaga aggaatgatt cgatttagag tattgtcaac tgaagaaaga 51420
aaggtaagga taattgtgcc gagattgaga tcttagtgaa ttcccagatt taaaaaattc 51480
ttatagaaat gccttttggc tgggtatggt gtcttatgcc tgtaatccta gcacattggg 51540
aggtcgaggc ggatcacttg agctcaggag ttcgtgacca gcctgggcaa catagtgaga 51600
catcgtctct aataataata ataacaacaa caaagataat aacgatcatg acaactaaaa 51660
aaaaaaggaa aagcctttt ctgttttgg aaattgaata catccaccaa acttttaaa 51720
gaggaaagta agtgcggata tatggtaata tggatatgta gtaattatta tgtaatggtg 51780
atgggtttt tgttttgttt ttgtttgagg caggtcttgt tctttcaccc aggcaggagt 51840
gtcgtggtgt gatcatggct cactgccacc tcgacctcct gggcacaagc aattgtcctc 51900
tttttttttt ttatagagac aacctctcac tgtgttgccc aggctggatg gttaattttt 51960
tgacggttta ctgtttaat ctctataagt tcctgtatgt tttaagttag gagaatacccc 52020
caagaaaaga tgcatttgtt aaaaatcaaa agtgtcaagc tgagttcgtt ggctcaagcc 52080
tgtaatccta gcactttggg aggccaaggc aggaggatct cttgagccca ggagtttgag 52140
accagcctag acaacatagt gatacaccat ctctacaaaa atttaaaaat tagcctggca 52200
tggtggcaca cacctgtagt cccagttact caggaggttg aggtgggaag atcacttact 52260
tgagcccagg aggtcaaggc tgcagtgagc cgtgattgtg tcactgtact ccagcatggg 52320
tgacagagtg agaccgggtc tctaggggga aaaaaattaa taagtaaaaa tgaattcaca 52380
ttttttgaat actactttag ggttcttgca agcagaattt ttaaaaattg tatctactta 52440
```

2813

```
cacattaaat actacatgag actattcctt ttgggaaaaa gactggtgtt ctgttccagc   52500
cttttcacatg gaaattagga caggtggctg gcttgcttct gataaacttc tgccatgtga   52560
aggaaggaag gcacaatctc tcagttagaa gtggaaggaa tgtgtgtggt gtaccagtta   52620
aatcctcagg tttcacttcc ccaggaatgg cagggcgcag cacaggcacc tagtaacgta   52680
gatacttgct ttggtaaatt gggttttatg aaaaaggtgt tgcataatga ggaagccaga   52740
aactggttta aacacctta gcgtcattta gaacctcatt tacaatttta tgtttctcat    52800
ttgttgttca ataaaatggc gtctaaataa ataagacttt acactgcaaa agaggaagag   52860
acttggcaaa gtctgtgatt gtgttttttga atacttaaaa atgtaatcag tattttttaag  52920
gtaaaccta aacatttact taaatccagt ttgttaatgt gagaaattct acagcttgaa     52980
gagcccttga aatggccagg gaaataaagt aggagtgggg aactattata gattaaaaga   53040
gattttagag acagatgaaa tgaatggacc ttgtctggct cttgctgagt gaataaaaac   53100
caaaccccaa agaatatata ctcatttata taacattcct gaaatgacaa catgatcaag   53160
atggagaata gagtagtggt tgccaggggt tggagtcgga gttggggctt ggggaagagg   53220
ttctgtattt tgactgtggt ggtaaacaaa ccaacccaca ataaaagtaa atacatacat   53280
acgctcaaat gagtagaagt aaaatgggat tgtttcaatg tcagttccct atagttgtga   53340
ttgttgggct atagttttgc aaaatgttac cactgggaa aactgggtga aggctacaca   53400
ggatctttct gtattatttc atacaactgc atgtgaaact gcaattatct tagaataaaa   53460
agtttcattt ttattattta tttatttatt tatttattta tttttgaga cggagtcttg   53520
ctctcgccca ggctggagtg cagtggcgtg atctcagctc actgcaggct ccacctcccg   53580
ggttcactct agtctcctgc ctcagcctcc caagtagctg ggactacagg cgcccgctac   53640
catgcccggc taatttttt gtatttttag tagagacggg gtttcactgt gttagccagg    53700
atggtctcag tctcctgacc ccgtgatcca cccacctcgg cctcccaaag tgctgggatt   53760
acagacatga gccaccgtgc ctggccaaaa gtttcatttt taaatagtac tgcaattata   53820
gtattttgca actaatatga ttaatataag caaagcttag attgagatat aaaagtagtg   53880
taaatcttta atgtgctctg catttaagta ataaaagatt tgttaacaat gagaacactt   53940
aattcaagtg ctaattattc tgctttatat ataaaaatat tacctggaaa agtaaataaa   54000
tcatttactt cttatttgtt attttctaaa aatctttcct tttcactcct gccattttac   54060
aaaggtgtgg gctaacaaag ccaaaggaga aacggcaagt gaaggaactg aagcaaagaa   54120
gcgaaaacgt gtggttgatg aaagtgatga aacagaaaac caggaagaaa aagcaaaaga   54180
gaacctgaat ttgtctaaaa agcagaaacc tttagatttt tctacaaatc agaaactatc   54240
agcttttgca tttaagcagg agtaaaggaa gaaagtgacc ctagggaagt aatggatttt   54300
ttttactca tctttgaata tagactcgag tctttgggaa actcattata tatatatttt    54360
ttaaagagtt tgaagcaact gtttgtcttt ataagataat gtagtaatta tattggtgta   54420
ggtaacagga catatgtaaa aactatcatc tttgcagatt actctgcctc caaatgcagg   54480
gcctttcaga gatgcattgt gattgtaatt actgagttga agctccaacc aatttgaatt   54540
tgtttcttaa ccttgaaaaa tcattaaagc caaggtatta aaacctttgt gcattaatac   54600
cttctagggg tttggttcat ttggttttttg tcatgtgcaa ggaaggacaa tagtcctctt   54660
tccaagtgtg ttagcataga cttctctata tgtttctact agacctaggg gatgacgtct   54720
tttaataata ctggccctaa acatgtaaat aatcttgtag gtgagacttt ttctttttgtg   54780
tttcggaaat ttcctatgtg gctttcagtt gtctgtttgt atagcctgga tttttttgag    54840
gtaaatgaaa ctttctcatt tgt                                            54863·


<210> 5889
<211> 54877
<212> DNA
<213> Homo sapiens

<400> 5889
gatgatatga gtaatgctgg tgattttcta aatgacaatg cagttgagat cccttctttt    60
tcaaaaggga ttataaatga tgatgaggat gatgaagacc tcatgatggc ttcaggtcgt   120
cctagacagc gaagtcacat cctagaagat gatgaaaact cagttggtaa gaatttgact   180
ttgtgcatgt gattaccctg ttgattaata tttagattt tttattaaca ctattaaagt    240
cattattgaa tttgtagaat gtagctaagt ggtgcttaga ggaaatttta tagcattaaa   300
tgactttgtt aaaaaaggtt tcaaatctat aatccaagct tctgctatgg cagactagaa   360
aaagagaaaa ctaaacccca agcaaatgga aggaaataat acagagcaaa attcaataaa   420
attgacaaca gaaaacctat agagaaagtc aatgagacca aagctggtt ctttgacaag    480
atcaataagg ccgggcacgg tggctcacgt ctataatccc agcactttgg gaggctgaaa   540
tgggcagatc acttgaggtc aggagttcaa gaccagcctg gccaacatgg taaaaccctg   600
tctctacaaa aatacaaaaa ttagctgggt gtggtggcac gtgcctgtaa tcccagctac   660
tcaggagact gaggcaggaa actcacttga acccaggagg tggaggttgc agtgagccga   720
```

2814

```
gatcgcgtca actgcatgcc agcatgggca acagagcaag actccatctc caaagaaaag    780
aaaagatcaa taaaattaat aaatatctat cgtggttgat caataaagag aagacacaaa    840
ttactaacat agagaatgaa agagaggtgg gccatcacta tagatctgta gatttgtgct    900
atccaatata tagtagccac tagccacatg tagctgttga gcacttgaaa tgtggttagt    960
tcaaactgag atatgttatg agtgcaaccg gatttttttt ttttttttga ggcggagtct   1020
cactctgtca cccaggctgg agtgcggtgg tgtgatttttg gctcactgca acctccgcct   1080
cctggattca agtgattctt gtgcctcagc ctcctgagta gctgggatta caggcatgcg   1140
ccaccacgcc tggctaattt ttgtattttt agtagagatg gggtttcacc atggagtgca   1200
accagatttt gaagacaata tgaaaaaag aatgtaaaaa tcttgggaaa ttttttatat   1260
tgagtacatg ttgaaatgat aatatgtatt ttaaatgcac tatattatta agattatggc   1320
tgtttctttt tactctttaa actttagaaa tattagaaaa tttaaaatta cagctgtaac   1380
tcacattata tgtctgtatg gcagtgctac tattaatatc aaaggcataa tggcaatatt   1440
atgaataact ttgtgcccat aaatttaaca acttaaatga aatagacgaa ttttctgaaa   1500
gacacaaagt accactgcta actcaagaag taatagataa cctgaatagt attgtatcta   1560
ttaaagaaat tgagattgta atttaaaatc ttcaaataga gtgcttattg taacaactta   1620
catgctacaa taacacttga acattatcaa gtaaaatgaa gaaattgaga ttgtaattga   1680
aaatcttcaa atagagtgct tattgtaaca acttacatgc tacaataaca cttgaacatt   1740
atcaagtaaa atgccaatgt gcagtgctat gttgtgcttt ttaaagtcat atagagttta   1800
tagaacagca gtcctcaaat gttttggtct cagtagcctt tatactctaa aaaattttga   1860
ggacccttcc gagagcattt atttatacag agttacggct atcgtcattt acatattaga   1920
aattaaaatt cagaaattta aaaatattta ttcacttaaa aataacatta ataaactcat   1980
gtaaacatga atagtacttt tttatgaaaa acaaaaaaaa ttagtgagaa gagtggcatt   2040
gcaatctttg taatgtctat catagaggat agctggattc tctcatctac ttttctggat   2100
taagtctatt gctatacatt gttttgtttt gaagtgtata aagaaaattt ggcctcacat   2160
aaatatgtaa tttgaaaagg gagaagtatt ttaagaaatc ttttaatagc acattcaatt   2220
aattgtggat attctttgat gttgcaccaa gactcagaag atgatcgttt cctaaagatt   2280
acttgcaaag tgtaatctga aaacttcagt gaactcttac ggctctgtta tgttaagatt   2340
cattggtctg gctgggaatg gtggctctca cctgtaatcc cagcactttg ggaggcccag   2400
gcaggaggat tgcttgaggc caggagttca agaccagcca gggcaacata gtgagacctc   2460
ctctctacaa aaaaacttta aaaattagcc aggtgtggtg acgtgtgcct gtaatcccac   2520
ctacttggga ggctgaggta ggaggatctc ttgagcccga gaggtcgagg ctgcagtgag   2580
ccatgattgc aacagtgggc tccaggcagg gtaacagaac gagaccctgt ctcagaaaaa   2640
aacaaaataa aatcaaaaaa ttcattggtc tgacttgaat gttgaatgga ttttttaaaa   2700
tcatgtttaa ttttgtaaca tatgaattga taatattggt tcactgaagt ttatagatcc   2760
tctttatact gacactttt attatctaat ataaattatt tgttttgtt tttaattaat    2820
tatatgttgt ttttaattaa ttaatttttg tttttagaga tagcatcttg ctctgtcacc   2880
taggctggag tgcagtggta tcatcacacc tcactgtaac cttgaactcc tgggcttaag   2940
cagttctccc actcagcctt ccgggtagct aggactacag atgcatgcca ccatgcccat   3000
ctaatttttt atttttgta gagatggaat cttgctttgt tgcccaggct ggtcttgaaa   3060
tcctggcctc aagtgatatt ccctccccag cctcccaaag tgctgcaatt acaagcgtga   3120
gtcacagcac ctggctgtaa attatatctg ctagtgttgt taccaatctc atcagtagtt   3180
tctaagtatt agaaagttgt gaagctcata atggcaaata gaagctttcc aatatcttaa   3240
tttttaattg aaagctcaaa tttcttgttt ttattttttg agagggagtc ttgctctgtc   3300
acccagccta gagtgcagtg gcacgatctc ggttcactgc aacctctgcc ctctgggtac   3360
aagtgattct cctgcctcag cctcctgagt agctgggatt ataggtgccc gccaccatgc   3420
caggctaatt tttgtatttt agtagagacg gggtttcact atgtaggtca atctggtctc   3480
ggactcctga cctcaaatga tctacccacc ttggcctccc aaagtgctgg gattacaggc   3540
ctgagccact gtgcccagct cttttttttt tgagacggag tctcccgggt tcaagcgatt   3600
ctcctgtctc agcctcccga gtagatggga ttacaggcat gtgccaccat gcctggctaa   3660
tttttgtatt ttcagtagag acagggtttc accatgttgg ccaggctggt caacgtggaa   3720
ctcccgacct taagtgatct gcctgcctcg gccttgcaaa gtgctgggat tacaggtgtg   3780
agccaccgtg cctggcctga aagctcaaat gttatcattg gcaacaaatt ctgccagtta   3840
tttttttctta attgataggc tcacttcatt catttacaag aaaatgtttg ccaaagatcc   3900
aattctgcat aaccgtagtt tatctggcat gtgtttttta agtaaaagta gtgttgtatg   3960
aaaaaaaatc acttagttca gcttacaact caaacaattg cataagtgct ttttttcaag   4020
acaaccatca cacttctcat tttagcacac agaactttaa aaaaaaaatc tgtgtaagcg   4080
tcaagattta ataaaattaa tatttttact gcaagtgagt agtggttaac aatgcagtaa   4140
cgactaatac agttaggtgc cactgccttg attggtgcca aggcaccagg aattttaccc   4200
accattgctt ttgcaccatc actgcatctc tttaacacag tgaaagaggc aaatagcatg   4260
tcagtgtcat tgaatatgaa tgaaaaagtt actagattcc ataatgcttt cctttttcca   4320
aatcattggt attcgtgatt cccttaatta tgatcctttg tgttgtagat atttcaatgc   4380
```

```
taaaaactgg ttctagtctt ctcaaagagg aggaggaaga tggtcaagaa ggcagcattc   4440
acaatctacc acttgtaaca tcccaaaggc cattttatga tggacccatg ccaactcccc   4500
ggcaaaagcc atttcagtca ggttctacac cgttgcatct cactcacaga ttcatggtaa   4560
gacttggatc tacacttaac ttcttagtag gtttttcagca ctttttttctt actatagtta   4620
attttttttgg ataaaacata tttttaaaaa ctttgattaa gtagcctgga gcactttggt   4680
tgattacagt tttgtggttg gtttattta tggttagctc acagttttaa tcttgtttca   4740
accttattga aaatgatgtt aaataaaatt ctgctttcca aaatgacatt aaatgaacat   4800
aagtaaatat tactatcttg caatatttct tggcaatact ttcaaacctt attcttcatg   4860
gtcattgtta catagaagat tatactgact ccaaaacact agtaaggagg tgctttctta   4920
gaaggcaact actagtataa tatattagaa ggtggcaagt actatggggg gaaaagtctg   4980
acccttttcc tcactccacc acccaccaga atgtaagcta cacgaggata aagattttttg   5040
ttttgtttac tgatatgttc ttaggatttg gaacaaggta tgatacagtg cacattaaat   5100
atatatttca tgaatagaca aaatgaatat attggctttt tgccttagat ttgagttctt   5160
ttttttttttt tttgagatgg agtctcgctc tgttgcccag gctggagtgc agtggcacaa   5220
tctctgctca ctgcaagctc cgcctcccag gttcacgcca ttctcctgcc tcagcctccc   5280
gagtagctgg gactacaggt gcctgccacc atgcccagct aatttttgta tttttagtag   5340
agatgggatt tcaccatgtt agacaggatg gtctcgatct cctgacctcg tgatccgcct   5400
gcctaggcct cccaaagtgc tgggattaca ggcgtgagcc accgcgcctg gcctgagttc   5460
ttaaaaagtt tagttttttct gtgttggtta tatgatgttt tccattctga ggattttgcc   5520
ttttttaaaag tataggcctg gcataaattt gaagagtata ggcctggcat aaattttttat   5580
gtaaagatta agggtggtga ttaatattaa taaaactttt tattgctatc agtagtcatc   5640
aagtcatagg tcttaatttt tttattagtg tcaatatttt atttatagtt atgttaaata   5700
aaatattggc actaatttta ttagaaactc tagggcctag tgtgagccta taatggacat   5760
cagtggaaga taagtttttcc aagtggtatc aatttatgtt gcctctgccg ggcgtgatgg   5820
ctcacgccta taatcccagc actttgggag gccaaggtgg gttggtcact tgaggatagg   5880
agttggagac cagcctggcc aacatggtga aacaccctat ctctactaaa aaaatacaga   5940
aattagctgg acctggtggc atgcacctgt aaccacagct acacaggagg ctgagggagg   6000
agaatcactt gaatccagga ggcagaggtt gcggtgagcc gagatcatgc cactgcactc   6060
cagcttgggt gacagagcaa aactgtctcc aaaaaaaaaa aaaaattatg ttttcttaaa   6120
atgtatgtat ttattttatc atagaatagt taggaaaaaa gtctgttgtt atttgcatcc   6180
atatttgtaa gaaaactcaa tttttgaaat atttcttttg aggaatttaa tggtttggtt   6240
gttcaaagga caactgtaat gtgcttttaa agtaacagtc atgtaattta ttttttaaata   6300
ttattaaata ctctatttgc taattaataa gtatatatgt atcttattct caccaaggaa   6360
ataataagta attgtagctc tggtattatg actcctgtca gaaactattt agagatagat   6420
gagatgtagt aactcccaaa acctaaatct taatacaaat ttaattataa tatttgttaa   6480
tttgtactac tgtggcttac tgattctagg agcttcagtt tttctcagac ttatatttaa   6540
tcttacctgt ttgtaggtgt ggaactctat tggaattatt cgctgctata atgatgagca   6600
agacaatgcc atagatgtgg agttccatga tacctccata caccatgcaa cacacttatc   6660
aaacactttg aattatacaa tagcagatct ttcccacgaa gctatttttgt tggcatgtga   6720
aagcactgat gaactagcaa ggtaaactca agattattag gaagaatttg gcactgttga   6780
actgttagat acagttgttg aaattaaaga caaaaagtta ataaaacaaa atttattttt   6840
tgtaatatga aatttcagaa gagtttggta caaacaccag cacacccaaa atacctcaga   6900
acatatgtct gtttttgcca taatgattcc ctcattacat gctctaacta catagcaaaa   6960
tgacatggca tagttagtaa tgcaagagat gggattttt ttttacattg ttaagtgctt   7020
tttttttttt ttactattat aagagtaata tacattcatt gtaaagaaaa aaaaccagta   7080
tacagtatag aagtttcgga aaatgaaaac tcctcccaga attctactct cagatataac   7140
tgctatttac aatttgatat gtatccttcc agatttcttt ctatttgaac ctcccttatt   7200
ttaatttact ttattgagat gtaatttatt tacaataaaa tgcacccatt tgatgagttg   7260
acaaaggtgt atatacacag ataaccccta ccacaatcaa aatacagaat gttctttatc   7320
acccgaaaat gtttcttat atccctttgc agttagttca accctagcct tggccaacta   7380
ttagtctaga tttttgtcac tacgtcttta tcacccaaga atgttttctt atatcccttt   7440
gcagttaatt caacctgagc cttggccaac tattaatcta cattttttgtc atgatggatt   7500
aaatttaaaa tctctcttcg agaaaggaaa aaaaaacgga aaaacaaacc aaaaaatgta   7560
ctagtcaccc gtttgctttt tctacttaat attttttgga tgtttacatg ttttgataag   7620
taggtaggta agtaaatagg tagatagatg tcaagaaaaa aattatgatg ggaaagcaat   7680
gggtgcagaa tgttttttctt ttcaaaagaa aagaaaatat ttttttcagct ttttgttaat   7740
caagagattg ccctctcttg atcccttctt cagctgatta tagtactgat acacttcatg   7800
gattttacta tcttctatgt gatttgaaat ttgtatcctt caggctgggc atggtggctc   7860
acgcctgtaa tcccggcact ttgggaggcc aaggcggaca gatgacctga gctcaagagt   7920
ttgagaccag cctgaccaac atggtgaaac tgcatctcta ctaaaaatgc aaaaattaac   7980
caggtgcagt ggcacccacc tgtagtccca gctactcggg aggctgaggc aagagacagg   8040
```

                                     2816

```
agaattgctt gaacctggga ggcggaggtt gcagtgagca gagatcacac cactgtactc   8100
cagcctgggt dacagagcaa aactccattt caaaaaaaaa gaatttgtat ttaataataa   8160
cttacatata tgtatgtgca aagaaaaaag gctggaaaga tatcaatata gttcatttta   8220
agggtatttc ataattactt ttttaaagca acttcttata ctagtgtata ataggaagta   8280
aactatttgg tttttttgtt gaatatcatg attgcttata tatatatata tgtaaatatc   8340
atatgaaagt ttgattgttt ctgtcttgtt ttaattttta gcaagcttca ctgcctgcac   8400
tttagttctt gggattcaag caaagagtgg ataatagact tgcctcagaa tgaggatatt   8460
gaagccatat gtctcggtca aggatgggct gctgccgcta ctagtgccct gcttcttcga   8520
ttgtttacta ttggaggggt tcaaaaagag gtattcagcc ttgctggacc tgtggtgtca   8580
atggcaggac atggagaaca gcttttcatt gtttatcaca gaggtagatt ttttttcagtc   8640
ttttatgact tgaagtaaaa tggaaattac ttgagctttt ttgctgtttt tgttactctt.   8700
tttgtcttgg attatatact tccttttgaa tccgtgtaat cttttaaatgt agataatttt   8760
gttgtgttca ctagcagcaa tgaaaatgaa aatgtttctt aatagaacta tattatagag   8820
agaattccaa ggtggaattt ggttaattac ttccatgtct aaatcttacc attttggcaa   8880
gcacgaccag agaactttca gcgttgaaat tccacaaaaa taactcctag taggaagggc   8940
caaaacaact ctgaatgtga cactttttaa aagctgctgc ctccttttttc ctcccctcat   9000
gtctttcttc agtccccgtc actatgctaa gactggtctt atcaaggtaa ccgataatct   9060
ctgtgctttt ttaaaaaaat aattccattg aaaatacctt cttctcatga cttctgtgac   9120
atcatacttt caatatttt cctcactggc agctcccttt ttactttttt gttggctcta   9180
tcttttagct ggagtgtatc ccctttttct ctactactct ctaggtcagg gtctttcagt   9240
cttttttgtct gctttgccac agtaagaaat agattcatag attctggacc aggtatggtg   9300
tggtgtggtg tggtggctca cacctgtaat ctcagcactt tgggaggccg aggcgggaga   9360
gttgctttag cccaggagtt caatacaagt ctggatagca atagcaagcc cctgtttcta   9420
tttttaaaag aaaaacagaa gaaagaaat atattctata taactgttct ataaatatct   9480
gcaaatgtaa ctgaaataaa agtctcctgg acaatgttta ctcttttgat atcagtttaa   9540
attttttttat ttcatttttt aaaatgctag ttgcaaatta aaattgattc catgactctt   9600
aggtcaaaat atgcagtttg agaaaccacc ctggggaatt ttatcataat ccatggcttt   9660
aaatacatct cagtgtctat gacttttaag ttgatagcac caaccctacc ctctccttgt   9720
gtctccagac ttacacatcc agttgcctac ttgaaatcta tttagagttt ggacagacat   9780
ttcagactta atttgctcac aataaaaact gatttttttc cttccaagct tgcttcttat   9840
gtagtttccc catcttagta aatggcttac taacaatcta gtggctgaag ccaaaaatct   9900
aaaaattatc ctcgattctt ctctttccat ttcccctgca tcaactccaa cagtaaaatt   9960
atatcatcat gtcaattcta tggaataaca cattctaaat ttgtctcttt tcatttcttc   10020
tgctaataca acctggatgt catctcttgg actgtcatag tagcctccta actagtcttt   10080
tagcttcagt tcttgccttc cacagtccat tctccacaga gcagcctagg tgatctttta   10140
aaaatataga tcatgctcct cttctcaaat ccctctgact ttccttcact tttagaatca   10200
aagtcaaact tctgatagct gtcaaggtga tctactgatc ccgtataatc tgacctttgc   10260
ctgcctctcc aacctcatct cttaccgttg tttctcatta ccatgttctg gccatactgc   10320
ctctttgtgt tcttcgagcc ctccattctt cctaccttag gactttgcat tagctgttcc   10380
ctccatccac ttccgtgttc cttcccctaa tgtttgcatg gcaggctcca gcttgcagtt   10440
catgtctcag cttaaacttt actttctgag aggtcacttc tgactaacca gtctaacaaa   10500
ccactctgac attctgtatc acattatttt aactttgtga taatttttttt gttcttttttg   10560
tgttttttaa tttgtcttct acctgaaatt tgaatttaat aagagtggtg acttttgttta   10620
ttgctgtagc cccagtatct aggccaatgc tggcgtgtag taagctctct gtaaatatgt   10680
cttgagtgaa taaatgccca cttataagga ctttatgtga agagtccatg taacatctta   10740
ctgtgtttct aatacctgaa tgatgcctca gttggatggg ttattcataa aaagtagtgc   10800
tagtcagtct agtaatttac cacaaaatca attcacagaa aataatttag actgcgttat   10860
agttggataa cctttgatgc ctgatttata tttacatttt ctcattaggt acaggatttg   10920
atggggatca gtgccttgga gttcaactgc tagagctggg gaaaagaaa aaacaaattt   10980
tgcatggtga ccctcttcct cttacaagga aatcctacct tgcatggatt gggttttcag   11040
ctgaaggcaa gataaatttg tttaaaaaaa acaagtataa tataaagtgt tagatattct   11100
tcaagaagaa aattatttca ttgtttttat cctaattaat ttaagaataa attatctcta   11160
ttttatattt taaatttcta ttttaatatg ttggcagaac tgggagctgc aatctttagg   11220
caaggtagcc attgttttat gtataagatc ttgttttttat ttttatgttc ttttaagaca   11280
gggtctggct ctgttgtcca ggctggagtg cagtggcatg atctcggctc actgcaacct   11340
ccacctcctg ggcttaagcc atcttcctac ctcagcctcc ttagtagctg ggactacagg   11400
catgtgccac catgcctagc taatttttgt attttttgta gagacagggt tttgccatgt   11460
tgcccaggct ggtctcaaac tcctaggcgc aagtgatcca cccaccttgg cctcctaaag   11520
tgctgggatt acaggcgcga gccactgcac ccggctaaga gctctcttca tgagaattct   11580
cattagaaaa cttataaaga aggaaatata ttttctgaa agtattaaat agcaaggagg   11640
tgatacaaat caataataag ttgtgtcttt tccagcagat catacagaaa acttagaatt   11700
```

2817

```
ttctagagct tcactgttta ctacaataac tagtatgtgt gtctgttgag cacttgaaat 11760
atggctgaga tgtgcttgta tgtgtaaaat actctggatt ttgaagactt agcatgaaaa 11820
aagatataaa aatcaatttt tttatgttga ttacatgtta aatgataata tttgagatat 11880
cttcgatgaa ataaaatgta ttattaacat taacttcatc cttttttttct ttaaaaataa 11940
ttttttttt ggctgggcat ggtggctcat gcctataatc ccagcactct gggaggccga 12000
ggcaggagga tcacttgagc ccaggagttc aagaccagag tgggcaacat agtgagatcc 12060
catctctatt taaaatttt tttttttaa ggaataaatt aggagtcttg ctctgttgcc 12120
caggctggag tgcaatgatg cgatctcagc ttactgcaac ctctgccttc cgggttccag 12180
caattctcct gcttcagcct tctgagtagc tgggattaca ggcttgcgtc accacactcg 12240
gctaattttt gtatttttaa tagagacagg gttttaccat gctggccagg ctggtcttga 12300
actcctgacc tcatgtgatc cacccgcctc gacctcctga agtgctggga ttacaggcgt 12360
gagccaccgc ccccagccta aattttttca cttaactttt ttttgttgtt cagatacatg 12420
gtatgtagcc attttttttt taatgtggca ctaggaaatt aaaaattaca cttgtggctc 12480
acatgatatt tcttttggat aagtgctatt ttagaccaaa ttctagaggc ttatgacaga 12540
tgatttgaaa gacactgagg agtaccttat tttatttat ttgttttgt gtttgtggtt 12600
ttttgacgc agagtctcac tctgtcaccc aggctggact gcagtgatgt gacctcagat 12660
cactacaacc tctgtcttct gggttcaagt gattctcgta cctcagcctc ccgagtatct 12720
gggactacag gcacatacca ccacgcctgg ctaatgttgt attttagta gagatggggt 12780
tttgtcatgt tggctaggct ggttttgaac tcctggcatc aggtgatcca cctgcctcag 12840
cctctcaaag tgctgggatt acaggagtga gccactgcac ctggcccagg agtaccttat 12900
tttaaatcac ctgtcatctc tgtctcatgg ggacttaaat atttctcttt ttggagattc 12960
atgttcttca tttacattgc tggaaactcc actttgtctt taaaatatca accatttcta 13020
aatgtgtttt ctattagtca ttcaggcttt aataatatga accattgata acttccattt 13080
gtatagattt ttttctccga agtaccaatt agatccagac cctgcggaaa ctaatgtttg 13140
cagagtgagg ggggtgtgaa gccacagata agaaaaggga taatcaggta atttgccaca 13200
gatttcctga gttggaagca gaataggtgg aaaacaagaa tgcttccctg ttttacgagg 13260
taagaattgc ttacctagta gttggggaca gagtagtgac aaggccaaca aaaagaagag 13320
agaggaagaa gagtactaaa gataaatttc gtaaagatca ctttgtatca gattttggtc 13380
attttttctaa atgtttctca agcgggagcc ttctgattca tgtttaattt tttactaaaa 13440
ttggctttaa aattattatc ggccgggcgc ggtggctcac gcctgtaatc ccagcacttt 13500
gggaggctga ggcgggtgga tcacaaggtc aggagattga gaccatcctg gctaacatgg 13560
tgaaaccccg tctctactaa aaatacaaaa aaaaattagc tgggcgtggt ggcgggtgcc 13620
tgtagtccca gctactcggg aggctgaggc aggagaatgg cttgaacctg gaaggcggag 13680
cttgcagtgg gccgagatcg cgccactgcc ctccagcctg ggtacacagc aagactccat 13740
ctcgaaaaaa aaaataataa taataaataa ataaataaat gaaattatta ttatcttcca 13800
gcaggtggca tagttttcac tgaaactcag tttttttcact ttatttgtgt aaattttagt 13860
catatcaaat ccaatgtttt ttcttttttt agttaggtct tactttatat ggttaatgaa 13920
attttacgta ataatcttag attatttgct tctgtttttgt gttttgcttt tgaaagcaaa 13980
gttgaatcct tggtatgtat aatatatttg aaatagggtt cctttaacaa catgtagcta 14040
tgtctccaag tgattttct gttggtgttt aggtacccct tgttacgtgg attcagaagg 14100
aattgttcga atgcttaaca gaggacttgg taatacgtgg actcctatat gtaatacaag 14160
agagcactgc aaaggaaaat ctgatcacta ctgggtggtt ggtatccatg aaaatcccca 14220
gcaactaagg tgggctatta aaagaagtct aaagttgact cttttaaaa agtatgttga 14280
aattcttttt atgaggccct ttaagtgtat ttgtctttta tcttagtcca attacttgct 14340
ttccatagtc actaaattag gaatttgttc atattcactc tgaagttttc agtcacttgc 14400
tttacttgaa acatgttgaa caaaatagaa ataattagga tgaccttacc atcatttcag 14460
ccacacaggg agaggaattc tgattaaaca tggcatttca cctttattta ctgtcttta 14520
ttttaataaa ataacaataa atataaaagt taaagtgaaa ataaaacaat atatattcaa 14580
ttgagaattg aaatatacaa ttaagctgct ttttgagatg ttttgcttaa ttatcgtaat 14640
aggaggaagg actaatagaa gacagagtct cgctctgttg cccaggctgg attgtagtgg 14700
cgtgatctca gctcactgca agctccgcct cacgggatca caccattctc ctgcctcagc 14760
ctccccagta gctgggatta taggtgcgca ccatcacgcc tggctgattt ttttgtattt 14820
ttagtagaga gggggtttca ccgtgttagc caggatggtt tcaatctcct gaccttgtga 14880
tctgcctgcc tcggcctccc aaagtgctgg gattacaggc atgagccacc acgcccagct 14940
gagtttttt tttttttttt tttttatgt ggagtctcac tctgtcaccc aggctggagt 15000
acagtggcgt gatctcagtt cactacaacc tccactttga gttcaagcta ttcttctacc 15060
tcagcctccc cagtagctga gattacatag gcatgtgcca ccatgcccag ctaatttttg 15120
tattttagt agagacaggg tttcaccatg ttggccaggc tggtcttgaa ctcttgacct 15180
caagtgatcc acctcaagtg atccacccaa agtacaggca tgagccaccg tacctggtcc 15240
tggactaata gtattttata ttgatccgtg tgcacattaa agtttgggaa gtactgctgc 15300
tggcatatgt ataaaatgat acattggctg ggtgtggcat gggatttctt tttggggtga 15360
```

2818

```
tgaaaatgtt cagaaattag tgttgataga tgcacaattc tgtgaatata caaaaaaacc 15420
actgaattat gtcttttttt tttttgagac agagtctcac tctgtcaccc aggctggagc 15480
acagtggccc gattatgtct cacttcaggc tcacttcagt gacatcctgg gctcaagcga 15540
tcctcccacc ttagccttcc aagtagctgg gactacaggc acgcaccacc acacccagct 15600
acttttttgta gagacagggt ttcaccatgt tgcctaggct ggtctcaaat tcctgggctt 15660
aagggatctt cccgcctcgg cctcccaaag tgttgggatt acaggcatga gccactgtgc 15720
ctggctgaat tgtatactta ccatatgata tggctggtac attctctgtg aactcaatat 15780
tatgtgaatc atatcttgac aaagctgtta aaaggatga ggacactata taatgatata 15840
gaaaaatctg caagatgtgt taagtgaaat aaataccatt tgtgtaaaag tggggaaaga 15900
ataagaatat gtaattgtat ttgctttaca tacgcaaaag aattcctaga agaatgaaaa 15960
ggaaactaac aataatagtt acctcacgga gagaaactca gtggatagta taggagactt 16020
ttctctgtat tcattttat acttttgag catgtaaatt gagcatgtaa ctttgaatta 16080
ctagttcaaa agttaaataa attgaatttt taaacaaagc agcaattcaa taaactaaat 16140
cagataaggc cagaagttaa gttcaagaag acttcttaat ttggctacat ggaggttaac 16200
ggtgactctg ataaaagtga taaaatgtta aattccagat tggggtgggc atgggaggta 16260
aagaaatgaa agtagaatat gtggataact cttatcaaga aatttgacta ttgggccagg 16320
cgaggtggct cacgcctgta atcccaacac tttgggagcc caaggcggga ggaatgctgg 16380
aggccaggag tttgagacca gcctgggcaa catagtgaga cccagtttca acaaaaaaaa 16440
atttttttaa ttacccaggc atgatggcac acacctatag tctctgctac ttgagaggct 16500
aagaggggag gatcacttga gcccaggagg ttgaggttac agtgagtcat gatcacacct 16560
ctgcactcct gtctaggcga cagagaacct atctcaaaaa aaaagaactt tggtgtgaag 16620
aggagcaaag atttggggtg gcacctaaag gaggataaaa agtctttgaa gggattttt 16680
agcttaggtg actctatagc atttttgtaa tcttttggca atgaatttag taaagaagat 16740
aagattgata atttaaaaga aggagccaat gaaaggaatg aaaaaagaaa aaaaagtagt 16800
agcttttaga tcacctgtct aaaataggaa aatagacatt tcatcagttc tggaaaggga 16860
aaaaaatagg cacaaatgca gatagatttg gtagccaaaa ggtaacaaat tcctatcttc 16920
tgttttggc ttctgttttg ttggcagatc atgaagcaga attcagttat ttctggagac 16980
agtggttggc attgtgggat gtttgagaag aaaagacata tagtctcaga ggatgcaaaa 17040
ttgaattagt agagaactac agaggaattg gtggttattt ctgtgtgttt tgcctttaca 17100
gttgtaatca ctgaatatta cattctaaat attgacatat ttagtatcag aagaagtata 17160
ttcattaacg gtttttttttt tttagagcca gggtatcact catttgccca tgctggagtg 17220
cagtagtgca gtcatagctc actgcagcct tgaattcctg ggctcaagtg atcctggcac 17280
ctcagtctcc tgagtaggta gaactacagg cacaggctac cacacctggc taatttttaa 17340
aaatattttg taaagatggg gtctcaccat cttgcccaga ttgacctcta attcctggcc 17400
tcaactgatc ctcttgcatc agccttccaa agtgctagga ttataggtat aagccagatg 17460
ccaagccaca ttcactattt ttagtagttc ttatagtgta ggttgttctc agtgatttct 17520
tgcatgtcca ttttcaggaa tctagttagt ttagtaattt gaattaaaga attcacagtc 17580
tatcttaata gtaggttaag gtttgaacct atgaggattt ttactattct gcctaatgct 17640
tattcaagta agattattca ttttgttagt gaatgtcatt atcttagagg tatatgaaat 17700
tatttatttg caatatatga aattagtcat ctgcaatgaa caattttgct tcttcatttc 17760
atttaatatt acaagtattt catcaattgc agttttcaca cccttagtaa tttatccagc 17820
tggctttttt tttcttaaca tgcttttttt tttttttccac acaaccctttt ggaacacatt 17880
ttttacttgc ttttttattta agatttgtaa agaattttaa cttgttaaaa actacgataa 17940
ttacagctgg taacatttaa ctgttatatt caataatgga taaagaaata atggactgta 18000
aattacagct tttacactta gaaggatttt agaaaccgtc tatactagta gctcctgaca 18060
ttttcaaata taagagccct ttttatttat ttatttagaa acagggtctc cttacgttat 18120
ccaggctgga cttgaacaag agtccttttt taaatgttga acagttcatg cctccaaata 18180
atagtagctc tagtagctct acatttagta tcagctaata aagaatattt ctttattgag 18240
acacagtctc gctatgttcc ctaggctttt cttgaactaa cctcgagtga tcctcccacc 18300
ttggcctccc aaagtgctgg gattacaggc atgataacat aagcttctgt agacctgaaa 18360
attttatttt aatataaaat tgtatttaca aatcacgtta tctgcataca tgtgaaaatt 18420
ttagtatgta aagtggaaac tatttttgta tttggtctac agacaattca tggtgcttgt 18480
gtgcattcct agacacttta taatagctca gcagccctac aggaataaaa gaatgggaac 18540
taccaagttc ttttggtcta tttgctgtct ctcttcaccc ccagcacttc tccccaattt 18600
ttacatatga gaaaactaag gtccaaaaag attaaagtaa tttggtagag agtacacatc 18660
tatttattgg caaaaaaaaa acaaccttat ttttttgtat taaaatatag gaacaaaggg 18720
agttagctga taagtagatt gaaagaataa atacttctcc tataaagacc agcttgttgt 18780
agaataattg aattactgag gggaatctta tacagtaggc atttgaagca ctgagaagat 18840
acactaaaaa atctgttgat agaaatgtat ttatttgtat attatgtgat aaattgataa 18900
ctgcagactg ttttcatatt ttcatatttt cctggcttta tgctggaata ataaacttga 18960
ataagaatat ttttcttttt ttttggtaca cccttgtaga acatttattt atttattatt 19020
```

2819

```
tattatttat ttttttggtat atagccttaa atattttttca aagattggaa gcaacacttc 19080
tcagtatggc ttactgtact tttcacacca gttttgctta acatgttggc atatttagag 19140
atgattcatt tcctttctgt ggatagcggt acatggaagt tcggggaata aaattctgca 19200
atcactttttt tagtagcctg ctgttgtgtt taaagagcct tacctattttt ggctagcaag 19260
aaattcattt ttggccaggc tttgtgactc acagctgtaa tcccaacaca tcgggaggcc 19320
aaagcatggg gatcacttga ggccaggagt ttgaggctag cctgggcaac atagagagac 19380
cctgccaggc atggtggtac atgcctgtag tcccagctgc tcgggaggct gaggtaaggg 19440
tatgacttga acccaggagt tcaaggttat acagccctg caccccaacc tgcgtgacag 19500
aaggagactt tgtctctaaa ataaaaagga aataaagaaa ttcatcttca tatttatttg 19560
cattttttaat gcctctgttt gctctcattg tttgtgataa agatagcaaa tcacatgctt 19620
ctctggaaag ccaatgtggc ctagtggtcc agagctcgag ctctcgagtg acactgcctg 19680
cttgtggtat cctggctgaa atcctcgttc agtagccctg gctctgtgcc actgtttcct 19740
catctctaaa accacagtgt acccatttca cagaatttct gtgaagatga agtgacttag 19800
tgatacctct ttctttattc ttttaacttt aaatgcattt tctaacccaa ctcagtggta 19860
tttatgcttt ctttttgttc agagatcctt taaaagaaag tacattttgt gaaaaataat 19920
ttttaaaaat tcatttgaga gcgtgtcaca tcggtgcaca cctgaatacc agctacttaa 19980
aagacagggg caggaggatc actggagccc aggagtttgc agacagcctg ggcaacagca 20040
aaaccccgtc tctttaaaaa aaaaagcatt aatttaagtc aatataaaat tttcctatttt 20100
tcctttaatt atgaatatga ggttgggtgc agtggctcac gcctgtaatc ccagcacctt 20160
gggagggcaa ggcaggcaga tcaccctgag gtcaggagtt tgagactatc ctggccaaca 20220
tggtgaaacc ctgtctctac taaaaataca aaaattagcc aggcctggtg gcagatgcct 20280
gtaatcccag ctacttggga ggctgaggca agagaatcgc ttcaacctgg gaggtagagg 20340
ttgcagtgag ccgagattgc gccactgtac tccagcctgg gcaacagagg gaaactctgt 20400
ctcaaaaaaa aaaaaattat gaatatgaga aattactgat ctgtattaat gtcatccctg 20460
ccccctttga gctgaacttc agtttaccaa gtattgtttc ttctaaagat tttttcatga 20520
cactactggt taatacataa ctgagagtta ataaattttg ctgtgttaca gtctaatttg 20580
ctctctacca acagagacct tctttctttt tctgtttagt ttttcaaaac aagagttatt 20640
taatgtgctt gaaaactaga catttttcct agttgtgttc actgaattag catttattat 20700
agtaccgact agatgtgcta taccacacaa agataaatga ggctgtggcc tggaagaggt 20760
aggcttgtaa agtcattatg ctactcccaa ataagtgctt taaaagagat gtgagcaaag 20820
tcccctcaaa tgcagaagac agtccggtcc aacacagaag aaaaagcaaa acttgctggc 20880
tggggcaagg ttaatctgga cacgacctag ttttctccag tttggcattt ttatttattt 20940
tttcgagaca gagtctcatt ctgtcatcca ggctagtaca gtggcacaat ctcatctcac 21000
tgcaacctcc tccttccggg ttcaagtgat tcttatgcct cagcctccca agtagctgag 21060
attacaggca tgtgccacca tgcccagtta atttttttgta tttttagtag agacagtgtt 21120
tcgccaggtt gcccaggctg gtctcgatct ccagagctca ggtgatctgc cggccttggc 21180
tcccaaagtg ctgggatatt acaggagtga gccaccacgc ctgattattt tggcattttt 21240
aaactctttc tttaatataa caaaaaaaaa aaaaacaaaa caaaacaggt tttgtggtca 21300
atttgaaaac aaattgaagt aatttttttt tttttgaga cagaatctct ctctgttgcc 21360
cagactggag tgcagtggcg tgacctcagc tcactgcaac ttctgcctcc tggcctcaag 21420
cgatcctccg tcctccgcct tccgagtagc taaagctaca ggtccatgct gccatgccta 21480
gcaaattttt tgtatttttt gtattttttt gtagagacga ggttttgcta tgtagcccga 21540
gctggtcttg agctcctgag ctcaagcgat ctgcctacct cagcctcctt atgtactggg 21600
attacaggca tgagccactg tgcccagcca cttttgtctt tttagtaaac caggttttttc 21660
attgttttttt tttttttaaa ttcctcttcc aggtggttta tgcacatagt ttccaggaaa 21720
ctccgtcgtc atcaaaaccc accaaattag cagtttaaat gtgtttgttt tttccttgaa 21780
ttcttctatg acggggatat ttaacagaga aaacatcttt ttagttgaag tctctaaagc 21840
taaggaaagg ataaaaaaat gcgaattggt gctctgcttt gatgtaaatg tggcttagaa 21900
agtaacttaa taaaatccta ctcagtattt ccttttttctt tgtgtgataatt gcttactatg 21960
tgtaaatcaa taaagtgagc tgtaaaatgt ttttaaacag gacatttttag aaaaaaatgt 22020
ttaggcaatt aacatttctc acagtgtttc ttctaatttt gttaatgtac atatatatgt 22080
acctggactc atcttttgtg aatgcacatg ctctttttca ttttgcatga ctagtaaagt 22140
agtgattctt gtaaatagag atttatgaca gaattgccac aagattctttt caaacttgag 22200
gtattcacac tgccacctca tactgtgtgg tgaaaactag attttttata aaatcataaa 22260
aggagagaag gaagaaataa atgaaattgt atgttcaaaa aaattagaac cctaaaaaca 22320
tttgtatttt tattgtatag tcagaaaaaa aagaagggag ggtatttgaa tctcacaaga 22380
aaggggcctg agtagtttga aaaagaatac tagacattgt cacttacttg ttttctaatt 22440
actctagtgg gcatttgata atactggaag atatttataa aatttttaaa ccctagggtc 22500
tagcttctac ttagtatctc ccttcaagaa tgtcctgatt aaaaggctat actataaatt 22560
aagtggatga ttattagtaa gcattcaaaa agagatttcg tcttttttaaa tgactttatg 22620
aaaatatgaa atttgcctgt ggtatttata gtgtgcagtc atggtttttcc agtgctttttc 22680
```

2820

```
taataaataa atcggagtac ataagttgaa agagttctat atatatataa atcattctgt 22740
gattaattaa tgctttttaa taaatcagct gcgagagcac tactcatgat gggcgtgttt 22800
gaatgcctta tatagactac tcagaacagg tttagacagt cttttgccccg ttgacctgtt 22860
accatattta tcagagtaga tatagattat agtctttcta atgatgttct gcttcactct 22920
gaccaatatc taataaacac ttaacctata ttaggcattt caccatcttt ctgtctctct 22980
ttttttggaat ggagtcttgc tatgttgccc aggctggtct cctggcttaa gtgataccct 23040
tctgtctcag cctcctgaat atctgggatt acaagtgccc actaccatgc ctgattttt 23100
tctctttttt gacaactcat accgacagta ctaagaattc ccaaactgat ggatgaaagt 23160
gaatatgcct cattggcatt tttttttttt ttttttttt ttttttttt ttttgtgac 23220
agtcttgctt tattgcccag gctggagtgc agtagtgcaa tttcccaggt tcaagagatt 23280
ctcgtgcttt accctcccga gtagctggga ttacaggcgt tcaccaccac acccagctaa 23340
tttttgtatt tttagtagag atgggttttc accacattgg ccaggctggt ctcgagctcc 23400
tggcctcaag tgatctgcct gcctcacccc tcaaagtgct gggattacag acatgagcca 23460
ccatatctgg ccaacttttt ttttttttt tggtgagacc gagtctcact ctgtctccca 23520
ggctggagtg cagtggtgtg atctcggctc accgcaagct ccgcctcccg ggttcacccc 23580
attctcctgc ctcagcctcc tgagtagctg ggactacagg cgcccatcac cacgcctggc 23640
taatttttta aaatatttt agtagagaca gggtttcact gtgttagcca ggatggtctc 23700
gatttcctga cctcgtgatc cacccgcctc ggcctcccaa agtgctggga ttacatgtct 23760
tgccatgttg cccaggctgg tctgaaacta ctggtttcaa gtgatccacc cacctcagcc 23820
tcccaaagtt ctgggattat gggtgtgacc caccgttccc agccttgtat gtcttctttt 23880
gaaaagtgtc tgttcatgtc ctttgcccac ttttattgg ggatatttgt tttttgctgc 23940
tgatttttt ttaagttcct tatagactct ggatatcaga tctttgttgg atgcatagct 24000
tgcgaacatt ttcttgcatt ctgtgggatg tcttttttt tttttttt tttttgagg 24060
cagagtctca ttctgtcacc caggctacag tgcggtggtg agatgagatc atggctcact 24120
gcagcctcga cttttctgggc tcagtgatcc acctcaggat ctgcaaatgt ctttccattt 24180
gtttgtgtca tctatggttt cttttcaacag tgttttgtag ttcttgtaga gatctttcac 24240
ctccttggtt agatatatcc taggtatttt gtgtgtgtgc atatggctat tgtaaatggg 24300
attgcacaag actacaggca catgccacca cacctggata atttttaaat tttttttgtag 24360
agacaggtct ccctttgttg cccaggctgg tctcaaactc ctgggctcaa gtaatcctcc 24420
tgccttggcc tcccaaagtg ctgggattac agatgtgagc cattgcacct gacctgttta 24480
ctcttggtag tttcttttgc tgcgcagaag ctctttggtt taattaggtc ccacttgtca 24540
attttgttt ttgttgcaat tgcttttgtg gacttagtca tgaaatattt accaaggcca 24600
atatcctgaa gggtatttgc tagggtttct tctgggattt ttatattctg aggtcttaca 24660
tttaagtgtt taatccatct tgagttaatt tttgcacatg gtgatagtta agggtccagt 24720
ttcattctgc atgtggttag ccagttatct cagcaccatt tattgagtag ggattccttt 24780
cccagttcct tgttttgtc agctttctca aagatcagtt ggttgtaggt gtgtggcttt 24840
atttctgtgt tccctattgt gttccactgg tctgtgtttc tgtttgtgca ccagtgccat 24900
gttcttttc actagccttg aagtagagtt tgatgttggg taatgtgatg cctccagctt 24960
tgttgttttt gttttagatc ctttggctat ttgggctctt ttttggttcc atatgaattt 25020
tagaatagtt ttttctaatt ctgtgaaaaa tgacattggt aatttgatag gaatagtgtt 25080
gaatctatag attgctttgg ggagtatggt cttttttttt cttctttctt tcttttttt 25140
ttttttggt gctgtgactt cgatgcaaac caaggttgct gcagacacag tatggtcatt 25200
ttaatgatat tgattcttct aatccatgag tgtggaatgt gtttccattt gtttgtgtta 25260
tctgtgattt cttttcaacag tgttttgtag ttcttgtaga gatctttcac ctccttggtt 25320
agatatattc ctaggtattt tatgtacatg tatgactatt gtaaatggga ttgcatactt 25380
gatttgactc tcagctcgaa cattattggt gtataaaaat gctactgatt tttgtatatt 25440
gattttgtat cctgaaactt taccaaagtc ttttatctag gagcccttta gcaattctat 25500
gtatagagta atatagtcag tggagagata tttgacttct tttcctatt tggtatctta 25560
cttgattgtt ctggctaaga ttttcagtac tctgttaaat atgagtgaaa agagtggcca 25620
accttgtctt attccaattc ttaagggtaa tgcttccagc tttttcccat tcatatggtg 25680
ttgtctgtgg gtttgccata gatggctctt tttattttga gttatgttcc ttcaatgcct 25740
agtatgttgg aggtctttat tatgaaagga tgttgaattt tatcgaaagc ttttctgca 25800
tctattgaga tgatcatgtg gtttttgttt ttaattctgt tgatgcagtg aattgcatat 25860
attgatttgc atatgttgaa ccaaccttac atcccaggag taaaacctac tggttgtggt 25920
gtattaactt cctaaagtac tgttgggttt ggtttgctag tgttttgttg aggattttta 25980
tatctgtgtt catcaaggat attggcctgt agtttctctt tttgatgtgt ctttgccaga 26040
ttttggtatc aggataatgc tggctttata gagtgatttg gagaggagtt ggtattttgg 26100
aatattttca gtaggactgg taccagttct ttgtgcatct agaattcagc tgtgattttt 26160
ctggtccagg gctttttttg gttgataggt tttttatttta ttacgattca attttggaac 26220
tcattattgg tttgttcaga atttctgttt tttctgagtc agtcttggga agttttatgt 26280
ttccaggaat ttatccattt cctctagatt ttctttgctg tgcagaagtt ctttagtcta 26340
```

2821

```
attaggtccc acttgtcagt tttggttttt gttgcaattg cttttgagga ctttctcttt   26400
ctctctctct tttttttttt tttttcttga aacggagtct taatgctggg cgcggtggct   26460
cacgcctgta atcccagcac tttgggaggc ataggcgggc ggatcacaag gtcaggagat   26520
cgagaccacg gtgaaacccc gtctctacta aaaatacaaa acattagctg ggcgtggtgg   26580
tgggcacctg tagtctcagc tacttgggag gctgaggcag gagaattgcg tgaacctgga   26640
aggcggagct tgcagtgagc cgagatcgtg ccactgcact ccagcctggg caacaaagcg   26700
agactccgtc tcaaaaataa ataaataaat aaatagaaac aaggtcttac ctaggctgga   26760
gtgcagtggc atgatcatgg ctcactgcag cctcaacctc caagctcaa ttaatcttcc    26820
catctcagtc ttctgagcag ctggagctac agatacacac caccacacct ggctaatctt   26880
taaaaatttt tgtagcaatt gggtctcatt ttgttgccca gggtggtgtc aaacttctga   26940
cctcaagtga ttctcccacc tttgcctcca aaagtattgg gattacaggt gtgagcccat   27000
ttcctctaaa ttttctggtt tgtgcacata gaagtgttca taatagtctc tgaggatctt   27060
ttgtatttct gtggaatcag ttgtagtgtc acctttgcca ttttctgatt gtgcttatat   27120
ggagcttccc tcttcttttc tttgttaatc tagctaggag tttatcgatc ttgtttatcc   27180
tttcaaaaaa tcaatttttt ttgtttattt gatcctttgt atggattctt tagtctcaat   27240
tttgtttagt tctgctgtta ttttagttat ttcttttctt ctgctagctt tggggttagt   27300
gtgttctcgt ttatctagtt tccctagatg caatgttaga ttgttaattt gagatctttc   27360
taacttgata taggtgttta gtgctataaa cgttcctctt aacattgctt ttgctgcatc   27420
ccatatattt tgatatgttg tgtctgtttt catttatttc aaagaatatt tcaatttctg   27480
cttaatttca ttgtttattc aaaagtcatt ctggagtatg ttgtttactt tccatgtaat   27540
ttgtgtggtt ctgagagatc ctcagtattg atttctattt ttattttact atggtctcag   27600
aatatatgct tggtatgatt tcaatttaaa aaaaattttt gagacttgct ttacggccaa   27660
gcatgtggtt gaccttagag tatgttccat gtgcagcttc atcagcattt atcttggtga   27720
taacatggat tccatgacag gtattaatgg tacaattttt atgtttaaa agtggtagtt    27780
tgctaaggaa aatatgaaga gagctgattt cacttttagt ggttgtcatt taataaagtg   27840
agatgtgagg ttgggcaggg tagctcacgc ctgtaatccc aacactttgg gaggcaaagg   27900
tgggaggcac actttagccc aggagttcga gtccagcctg ggcaacatgg caaaacccca   27960
tcgctactga aaatacaaaa gttagccagg catggtggca tatatctgta gtcccagcta   28020
cttgggaggc tgaggtggga ggattgcttg aacttgggag gttggggctt cagtgagccg   28080
tgatcacacc accgtgcttt agcctgggca acacagtgag accctgtctc aaaaaaaata   28140
aatcaagtga gatgtgagaa ggaattttc tattcttgaa atgcatgtag ggatagtctt    28200
tatgcctagt caagcctaaa acactttttt aaaagagat atttgttata tatgattaag    28260
gcagctatta taatattact attctaagtt actaactttt gaaacttttt taaattttgt   28320
agtttttatg acatgttagt aaatttttat gatggaactt ttctttacta acaggtgcat   28380
tccttgtaaa ggttctcggt ttcccccaac ccttccacgc cctgctgttg ctatattatc   28440
ctttaagctt ccttactgtc agattgcaac agagaaagga caaatggagg tatgtggaag   28500
tcttaccttg acactttgaa tttgataata cagcacctgt gatacacaca ctttaaaatt   28560
atcctgatgg ccagtattga atattcatta ctgtataatt acataaatag gggtagcagg   28620
gagggaagag gactgcttgg gatcaccagg ccacctgatt gccatcactg cttccaggga   28680
ctttgtctac aaagtaaatg ggtgtgactg tcagagaccc actgggaaa gacttactct    28740
caggatgggg catgtccctg agaagaagtg cctccataca ttttgtgcca taacacctgg   28800
cttgcctgac cctagtccta gccttgtgtc atcaaaagtc atttgaaatc ttgcagttag   28860
ttattctaaa taagaaacaa gttagctttt aaaaatcttg tttaccaaat tctctgagca   28920
ttaattatga tagctaggaa actgttttaa atgctgtatt cctccccagc tgcctttttt   28980
aaggataggg gaaaaagtta agctgtagta tcacactaga atttaaattg taaaataaac   29040
ttatagaaag gaagagttca gaacatattt tattcaaaaa ctggtatctt aagataaata   29100
tttaacgctt gcctcatatt aaggtgatag ttggccttaa gcaatttat ttgctttat     29160
aggagcaatt ttggcgttca gttatatttc acaaccacct tgattattta gctaaaaatg   29220
gttatgaata tgaagagagc actaaaaatc aagcaacaaa agagcaacag gaacttttaa   29280
tgaaaatgct tgcggtgagt aaaataaata tactgaaaac gttaaagtta aatgcttttc   29340
tataggttga atttcttaaa ggtctgtgca ttaggactaa gtcccacaac ctaagattct   29400
taagtttttt tttgttgttg ttgttgtttt ttgtgcgacg gagtctcgtt ctgtcaccca   29460
ggctggagtg cagtggtgcg atctcggctc actgcaacct ctgcctcccg ggttcacgca   29520
attctgcctc agcctcccga gtagctagga ttacaggcac acaccaccac gcctagctaa   29580
tttttttttt tttttttttt ttttagtaga gatggggttt ccctatgttg gcccgactgg   29640
tctcgaactc ctgacctcgt gatccgcccg cctcagcctc caaagtgct gggattacag    29700
gtgtgagcca ccacacccag ccattcttaa gttttatctg gtggtgtttt cccttgtaaa   29760
gttctatctt ctagttggtc ttgcagttaa aattttttc ttttttttt tttaggcgga    29820
gtttcgctct tgtttctcag gctgaagtgc agttgtgcag tcttggctta ctgcaacctc   29880
cacttcccgg gttcaagtga ttctcctgcc tcaaccttcc gagtagctgg gactacaggc   29940
gtgtgccacc atgcctggct aattttgta tttttagtag aaacagggtt tcaccacatt    30000
```

```
ggtcaggctg gtcttgaact cctgacctca ggtaattcac ctgcctcggc ctccgaaagt   30060
gctgggatca caggcatgag ccaccgtgcc cagcctaaaa taaataaaac agtaccttgt   30120
agctaagatc atgtgcagga ataaacatct ctagggctac ttcccttttg cttttgccca   30180
tcagtctatg ttttaacggg ctctcaaggt aactgagaac cactgctcta gtttctgtta   30240
ttattttaca aagtttgagt atatactgtt ttttaatctc cagggctggg caatcttaag   30300
aactttgatc gggctgttag atatgcctgc cttttgtcat cctctttgag ttaggcagct   30360
gtgtgtgatg aaaatttatt tgtgaccagt ggccaggttt ggtgtctaga atatttaagt   30420
acatttatct ttggagcagg gtgtcttaaa gttcctgtgc ttgtgtcccc actcaaggtt   30480
ggtttatgga gaggagtata gtatcatttc ttctttattt gtcttacact agactttatg   30540
ccccagaggg cagagacctg ctcactgctg tatgccaggc actgacatgg tggcttaaca   30600
catagtagac ctcgatattt gttgacaaga gtgaatggtc cagactttta attttaaaat   30660
tggagaaaaa aggttcttag agaaaagtgg tatatgagac cacagagcaa attgccactc   30720
ttgtctccaa aaggtagtac tcactactgt cacctttatg caacatggcc ttaagtttgg   30780
tattaagaaa actcagttta ttgtagaaaa agttttattc cttttataaa gtgttacttg   30840
tggtccagga actagtagcc tttttatttg tacaacacat ataaggaaac atatttcatg   30900
tatttgctat ttagcctaga ggagcttttc cctgtggcag tgtttctcat atcaaaaata   30960
ccagggggact catatcaaag atgccagggc aggaggatat cttgagccca ggagttcaag   31020
gggattgttg agttcttctt tagcattcct gaccccgggg caaatgcctt tagttcagaa   31080
tagtcactgt ggaaaccaga ctattccttt ttatttcttt tttttttttt gaaacgaagt   31140
ctcgctctgt tgcccaggct ggagtgcagt ggcgcgatct ctgctcactg caagctccgc   31200
ctcccaggtt cacgccattc tcctgcctca gcctcccgag tagctgggac tacagttgtc   31260
tgccaccaca ccagctaatt ttttgtattt ttaatagaga ctgtgtttca ccgtgttagc   31320
cagtatggtc tcgatctcct gaccttgtga tccacctgtc tcagtctccc aaagtgctag   31380
gattacaggt gtgagccact gcgcccggct tccttttttat ttctaaatgc cccctgaggc   31440
agtgtaccat cccgattaag aagtactgat tatagataaa tgatactaaa aatcttgaaa   31500
agggcatcca ggtgaatatc taaagctttt gtgctgatgg atcagacatg gaatatctaa   31560
gtaagaaaat agttctaata cactatgaat taggagaccc ttagtaatct tcaaaatacc   31620
aacttttctc agtttgttgt ttttctttttt tgtatttttt agagaaaggg tctcactctg   31680
ttacccaggc tagagtacag tggcaagatt gtaactcact gcagcctcaa cctcctgggc   31740
tctagtgaac ctcctgtctc aggctcctga gtagataaga ctgcaggtgc atgccaccac   31800
gcccagctaa tttatttttt gtagttatag ggtctcactg tgttgcccag gttagtctca   31860
aactcctggc ctctagcagt ccctctgcct tggccttcca aagtgctagg attacaggtg   31920
tgagccagca cacctggccc ccttgatttt ttttttttttt ttttttttttg agacagagtc   31980
tcgctttctc gcccaggctg gagtgcagtg gtgcaatctt ggctcactgc aacctccacc   32040
tcccgggttc aagcgattct cctgcctcag cttcccgagt agctgggatt acaggcgcac   32100
gccaccacgc ctggctaatt gtgttttttag tagagacggg gtttttgccat attggccagg   32160
ctgatctcga actcctcacc tcatgatcca cccatctggg cctcccaaag cactggtatt   32220
acaggcgtga gccaccgtgc ccagcctccc ccttgaattt tttaaacaaa tttcttaatt   32280
ttcttgcaat tagtagatta aagtggtatg taatatttca tcaaatctaa gccactgttt   32340
attgcatagt gcaccattac tttattcatt taagccatgg agacataaaa atgctgccaa   32400
actgacccac cattaattgt aattaattgt aattccaatt tcagagatgt taaaacttgt   32460
aaaaatgtgc atcttagaat tagggagata gagtagctag aaaactattg tctcagtttt   32520
actagtagtg tcagtatctt taaaaagttt tacttgatgt tatttgatct cccccccccc   32580
cccctttttg gattagcttt cttgtaaact ggagcgagaa ttccgttgtg tggaacttgc   32640
tgatctaatg actcaaaatg ctgtgaattt agccattaaa tatgcttctc gctctcggaa   32700
attaatactg gctcaaaaac taagtgaact ggctgtagag aaggcagccg aattgacagc   32760
aacccaggtg gaagaggaag aagaagaaga agatttcaga aaaaagctga atgctgggta   32820
agaaataatt tagttgtttg aattttcctt tactgtcttg aatgttaagt tggtctttgc   32880
atagctcttt attgaataat attattttct cttagttaca gcaatactgc tacagagtgg   32940
agccaaccaa ggttcagaaa tcaagttgaa gaagatgctg aggacagtgg agaagctgat   33000
gatgaagaaa aaccagaaat acataagcct ggtgagatac attttcaagc ccataaatca   33060
tgagaactat catggatgtg gcttttccca ttttgcttaa ctgagggaaa ttgaatactc   33120
atactttttt tcagacctct ttgctatctg gttgttgtat attgaggatg actatatttt   33180
ccccatttac attatattgc tttattttaa tctgtaggac agaactcgtt ttccaaaagt   33240
acaaattcct ctgatgtttc agctaagtca ggtgagaaat atttataaat ttgtaatatc   33300
aaggaaattt tgcaagtcat ctgcaaagtg acacatctac gcaaatacac cttaactctt   33360
aaggccactt ttggtgtgtg tgtgtttatg tttttgtttt tttaatctca gatgttgttt   33420
gtgaagctat ggtcatttaa cagatgttta taaaatgcct attgagtgtc aggcatttta   33480
cttaatggtg gatacagaag tcaaacagac atgtgtggtt gatctctgtt ttaatgctat   33540
tttagcccag ctgagaagac agatgttgaa gacagatctg ggtatcactg aggaagcatg   33600
caggatactg gagaaacagt taaaaggaat tgaaggctgg gcgcagtggc tcacgcctgt   33660
```

2823

```
aatcccagca cttttgggagg ccggagtggg cggataacga ggtcaggagt tctagactag 33720
cctggccaac acggtgaaac cccatctcta ctaaaaatac aaaaattagc tgagggtggt 33780
ggtatgtgcc tgtaatccca gctactcggg aggctgaagc aggagaatca cttgaactca 33840
ggaggtggag gtagcagtga gccgagatcg tgccattgca ctccagcctg ggcaatggag 33900
tgagactcca tctcaaaaaa aaaaaaaagg agttgaaaat ggttgcgtac agggagtggg 33960
cctgggggat aagagaaggt tgaagtaagg cactgctggc ccttttttgg tggggagcat 34020
aaaccttata gtaccatttg acttttaaa ctgtggacat atgttacttt gatttaaaaa 34080
aattaactta aaaaacatgt agaatatgaa aagagcgtat gacacatagc tgtcatctag 34140
ccagtggtgg aggatgggta gggacttcaa ggcaggcctc atggagtgtt tacagcagag 34200
acctgaagga tgaataacag tcagcaaggc aaaggtgcat gggaacagga gcagaagaga 34260
agcatttggg cttaaggaac agtatgtgtg aactgaaggc tgcaaaaggg tggtgtgaaa 34320
agctcagaga gcaaagagaa agtggtgctg aagggtttcg gagtgatggg caggagccaa 34380
gtcatgcaga tctgtgtagg ccatattaag gattttggtc ttttttttat tttatttttat 34440
tttttttaat agagatgggg tgtcactctg ttgtccaggc tggtctcaaa ctcaagcaat 34500
ttcctcacct ccacatccca aagttgttgg acctgcaggt gtgagccacc acacccggtc 34560
aggattttgc tctttattct aaggtcactg agagactgtt gtaggtttta agcagaggta 34620
tagcatggca cactgtgctg aagaagaaca gataatagac tactggccag gtgtgatggc 34680
tcatgtctgt aacctcagca ttttgagagg ccaaggtgga aggatcactt gagaccagac 34740
gtttgagacc agccttggaa acaatgaaac cctatctcta caaaaagtaa ataataaaaa 34800
tattagccag gcatggtagt acacaccggt agtcccaggt atttgggagg ctgggacagg 34860
aggatatctt gagcccagga gttcgagggt gcagtaggct atggttgcac cactgcactc 34920
cagcctgggt gacagagcaa gaccctgtat caaaaaataa ataggccagg cgtggtggct 34980
cacgcctgta attccagcac tttgggaggc cgaggcaggt ggagcacttg aggtcaggag 35040
ttcaagacca gcctggccaa aatggtgaaa ccacatctcc actaaaaata caaaaaaaaa 35100
aattagccgg gcatggtggc tcatgcctgt aatcccagct actcgggagg ctgaggcagg 35160
agaattgctt gaatccagga gtggggagtt gcagtaagtg gagatcacgc cactgcactc 35220
cagcctaggt gacagagtga gacttcatct aaaataataa taagaagaag taaataaaaa 35280
ttaaaaaata aagagactac aagctgggcg tggtggctca cacctgtaat cccagcactt 35340
tgggaggctg aggagggtgg atcacgaggt caggagattg agagcatcct gaagaacaca 35400
gtgaaacccc gtctctacta aaaatacata aaaattagcc gggcatggtg acaggcacct 35460
gtaatcccag ctacttggga ggctgaggca ggagaatggc gtgaacccgg gaggcagagc 35520
ttgcagtgag gtgagatcat accaccgcac tccagcctgg gcgacagagc gagactccat 35580
ctcaaataaa taaataaaca aacaaactac agaggcagtc caaatgagat tgaataaggg 35640
cctgagctag ggtggtgatg gtgatgttag aaagaatggg cagagttgga gagctatttc 35700
tgaagatgat gaagagagtg taggagttca gggcgtaaag agtgattctc agtttcttgt 35760
aatagaagaa aaacttaagc acatttgaat cttgaaggat taatttgaac attcagtgat 35820
tcatgaatca gggaggcacc aaaccgcaag gggctagcac tctgccagga gagacaaaag 35880
gggaaacttt tataaagtat tttcagaaac gagataaata aaacaatttt tattggctag 35940
atggaaaggt ttttttgttt gtttttttttg tttggtgggg ggggtgcgga tacagggtat 36000
cttgctttgt cactcagact ggagcagagt tggagtgcag tgatgcagtc ctagctcgct 36060
acagccttga actcgtatgc tcaggtgatc ctcctgcctc accctactga gtagctatga 36120
ctacagttgt gcatcaccat gcctggttaa ttttttgtgt gtacttttttg tagagagagg 36180
agcttgcttt gttgccgaag ctggtctgga actcctgggc ttaagtgacc ctcctgcctt 36240
agcctcccaa aattttcgga ttacaggcac aagtggccat gctcagctag aaatttcctg 36300
cctgcctgcc tgcctgcctg cctgcctccc tccctccctt ccttcttccc tccctccctc 36360
cctcctcttc cccccgccag ggtgtgactg tcatccaggt tagagtgcag tggcgtgatt 36420
atggctcact gcagcctcaa ccccccagac ccaagcgatc tttccacctc agcctcccaa 36480
gtaactagga ccacaggcat gtgtcaccat gtctggctag ttttgttttg gtttgggttt 36540
tttgtttttgt tgtttttttgt ttttgtagag acagggtctc cctatgttac ccatgctagt 36600
cttaaactgg gctcaagcag tcctccctcc tcagcctccc aaagtgctgg gattacaggc 36660
ttaagccacc atgccaggaa agctcttaat tagagattag tttgttaaca ctggcttgag 36720
tacttgagtg aatgatggtg ccatttccta agtcaggaaa cactagagaa aagcagattt 36780
agagaggaag atgatgaatt actgtaaggt gagtagaatg tcgtgaagac agatatttga 36840
atcaggagct cagggaagta ttctggtcaa gagatacaaa gtgaaaatca ttggcataag 36900
tatagcaatt taaaccatga gcatgggtaa gcaagcattg ggggagaatg taaagcaaaa 36960
agaaaaatga gcttaagcct agggaatctc caacatttga gcatcaggta gaggaagagg 37020
aggaaccaac tattggaaca caatgagtcc acaggtccag agaggaagga actaagtcag 37080
ggaatgcagt atctcagaag tcaagagagg acaaagtatc aagaagtaag gaacagtcag 37140
ctatgtggga tgccattgat agagcaaaca aggtgactga aaggtatcca ccagatttga 37200
caatgtagag atcactgagg gccttagcaa gaggagattc tgtagggtgg tagagctgga 37260
agtgctatat tgtatggagg aatgtatggg tggtgaggaa atgataatag tgtcaacagt 37320
```

2824

```
tcttggaaaa atttggctgg atgaccgggc gtggtggctc atgcttgtaa tcccagcact 37380
gtgggaggcc aaggcagacg gatcacctga ggtcaggagt tcaagaccag cctggccaac 37440
atggtgaaac cctgtctcta ttaaaaatac aaaaattagc cgggcgtggt agcaggcgcc 37500
tgtaatccca gcaattcggg aggctgagac agtagaatcg cctgaacctg ggaggtggac 37560
tttgcagtga gccgagatca caccattgcc ctccagcttg ggcaacaaga gcgagactct 37620
gtctcaaaaa aaaaaaaaaa tggctggatg gaggaggcga gagaaatgg tgactggaag 37680
gaatgtgggg tagagaaggt ttgttttttg tttcttttta agttgggaga ctttagggge 37740
caataaatag ggaaaagtca aagatgtagg atgtcaagaa acttgatagg tcaggttttc 37800
tgacaaagca ggagggcatg ggatgcagaa cacaagtaaa gggattacta accttagctc 37860
agacgagctg ccactcttcc gcagtaacag aagataaaag atctgtacat actgaatatg 37920
tttcatagtg gcacgttggg gtggttcaca tttaatagct tttattttgg cttagaagta 37980
ggaaagagga tatctgttgt taatagtttt gaaaagttgc aaaatacatt tgttttcatt 38040
taatggggat taaaatactc tgtctagtat tatagatgtc agaagtcatc tattttctac 38100
cattattaag caagggtttc ttttttgtga aaggtgcagt tacctttagc agccaaggac 38160
gagtaaatcc ctttaaggta aactcttcca agtgatgttt tatattattt aaatacattt 38220
gtatacaaag aaatatttcc aaatgatgag atgactctcc ccagacttgg aggcatgaaa 38280
gactgatctg tgtggaaaca gaagaaagca gcacttgggc tgagagttgt cttttctact 38340
taccttctaa gtacctatgg ttttgaaaga tacctctgtc tttcttgggg atgtggtatt 38400
tgggaatata cgtatcattc ttaatttgga ttgtaccaaa tgtatttagt tctaaagatg 38460
agatggcaat acaaacttaa cagaaatttc aagaaaaaat aagtctcttg ggattttatt 38520
tttcttcttt aaacatacag tgctaacact agtttgctct ttaggtatca gccagttcca 38580
aagaaccagc catgtcaatg aattcagcac gttcaactaa tattttagac aatatgggca 38640
aatcatccaa gaaatccact gcacttagtc gaactacaaa taatgaaaag tctcccatta 38700
taaagcctct gattccaaag ccgaagccta agcaggtact gtttcagcta ccctcatctg 38760
cagtaagcag catgggatct gtttgtcttc agttttgttc actgtttcag atataggata 38820
ggaggttctg attgtttaca attgtcttgc tagggaagtg ggttcaattc tgttttttgca 38880
gctaggcaca gtggcacata cctgtagtcc cagatactca ggaggctgag gtgggaggat 38940
cacttgagcc caggagtttg agtccagtct gggaaacata agagataccc catctgaaaa 39000
aaacaaaccc caaaacagtt gtgttttttg tttcagaatc actccctatt ctgcctcgtg 39060
agttgttaca cactttgtag cagattctga cttccaagat cactatcctg ctcccctgt 39120
ctttttttgag acagaggctc actctgtcac ccaggctgga tggagtgcag tgtcaggatc 39180
tcagctcact gcagcctctg tctcctgggt tcaagcaatt ctcatgcctc agcctcccga 39240
ggagttggga ttacagaggc ctgacatcac gcccagctaa ttttggtatt tttagtagag 39300
atggggtttc agcatgatgg ccaggctggt ctcaaactcc tggcctcaag tgatccaccc 39360
acctcagcct cccaaagtgc tggtattaca ggcatgagcc accgcaccca gcctatcctg 39420
cccctctcct tgtttttaca gatcactttt taaaaatata tatactcaga ccccagaagc 39480
tcagacattt atctgtattt ttattaaaat cacccagata gttctgatgt atattcgtat 39540
ttaatagtgg ctgatattgt acatggccct aattttttcct tgttctgagt cctgattttt 39600
ccactctgat aagtatttga tcccggatta gtcattggta aaatagatct attgcttatc 39660
ttttctattt aatataattg tattcatta gaaaacatgg aatttaggcc agccgcggtg 39720
gcaggtgcct gtaatcccag ctacctggga gggtgagtca ggagaaccac ttgaactcgg 39780
agggtggagg ttgcagtgag ccgagatagc gccactgcac tccagcctgg gcaacagagt 39840
gagactccgt ctcaaaaaa aaaaaaaaaa aaaggaaaac atggaatctg aagtgtagtt 39900
ttttggtttt gcatgtgttt gcctatttat ttacaactga gaactccaga tttcacatgt 39960
tagtataaga attctcaata attatagatg tttcttcaca tttttcagaa cgtgcttata 40020
aaacatataa aattatacta gatgttattg cagtattcat gtttgttttt ataggcatct 40080
gcagcatcct atttccagaa aagaaattct caaactaata aaactgagga agtgaaagaa 40140
gaaaatctta aaaatgtatt atctgaaacc ccagctatat gtcctcctca aaacactgaa 40200
aaccaaaggt cagtacatag agaaatttag catgcagtga ccaagtaaaa agtatacagt 40260
agcagcaata caaaattatg caatgctgtt attccttaat acaaataata cattggcatt 40320
ggtagtgggc attctggaca cttgtgacta taaggaagcc acaaatatta atgtctattt 40380
ataatattta ttaaaatatg ctttaataaa ttgtatattt ttaaattgtg gatatatttt 40440
attgggacat tatattttgt aattaatttt ttgtttgttt ttaaatagtt taatggggag 40500
aaatagcaaa agatacaaaa agaagagtga taataagtag tttcatccaa ctaatttctg 40560
tctccaaaaa caatcactgc aacaagtttc ttgtggaact ttccaaaatt attctattta 40620
tgtgcaaata catatttgtc tattttttgt tttacacatt attctgtacc ttactttttt 40680
aacttaacaa tagcttttgt agcttatttt atattactac ataaagaact tctttatact 40740
ggctgggcat ggtggctcac gcctataatc tcagcacttt gggaagccga agcaggcgga 40800
tcatctgagg atgggagttc gagaccagcc tgaccaacat ggagaaaccc tgtctctatt 40860
aaaaatacaa aattagccag gcttggtggc acatgcctgt aatcccagca aatcggaagg 40920
ctgaggcagg agaatcactt gaacccggga cgcggagatt gcagtcatct gagatcacac 40980
```

2825

```
cgctgcactc cagcctgggc aacaaaagcg aaactctgtc tcaaaaaaac caaaaaaaca 41040
aaaagaactt ctttatacta tagcaaggct atcagaaaaa gtaaatacat aaatggatgg 41100
atagatagaa aaataagagc tttaatcttt gtgtatccat tgaatagaca tgtcatagtt 41160
catgtagttc tctacttgtg dacaaaagat ggttaccggt cttttgctag tacagacagt 41220
actgcaatga ataattttat atgaatagca tttctcacag atgcatatat agctataaga 41280
tggattcatg tatggttcaa gttaatctgc acttataatt ccaatgccag attgttctgc 41340
attgatgttg tatcatttta tacacct tta gcaatatgag tattcctatt tgctcatatc 41400
ctctttgtcc acaaacacag tatgttacct attttcttga tctctactat gctggatttc 41460
tttgtattta tttatttttt ctgagacgga gtttcgctct tgttgcccag gctggagtgc 41520
attggcacga tcttggctca ctgcaacctc cgcctcccag gttcaagcga ttctcctgcc 41580
tcagcctcct gagtagctgg gattgcaggc atacgccacc atgcctggct aatttttatat 41640
cttttttttt tttttaaata cttttaagct ctagggtaca tgtgcacaac attcaggttt 41700
gttacatatg tacacatgtg ccatgttggt gtgctgtgct catcatttac attaggtata 41760
tctcctaatg ctatccctcc ctacttcccc caccccacaa caggcccaag tgtgtgatgt 41820
tcccttcct gtgtccaagc gttctcattg ttcagttctc acctatgagt gagaacatgc 41880
ggtgtttggt tttttgtcct tgagatagtt tgctgagaat gatggttccc agtttcatcc 41940
atgtccctac aaaggacatg aattcatcct tttttatggc tgtatagtat tccatggtgt 42000
atatgtgcca cattttctta atctagtcta tcattgatga acatttaggt tggttccaag 42060
tctttgctat tgtgaatagt gccacaataa acatacgtgt gcatgtgttt ttatagcagc 42120
atgatttata atcctttggg tatataccca gtaatgggat tgctgggtca aatggtattt 42180
ctagttctag atccttgagg aatcgccaca ccgccttcca caatggttga actagtttac 42240
agtcccacca acagtgtaaa agtgttccta tttctccaca tcctctccag cacctgttgt 42300
ttcctgacat tttaatgatt gccattctaa ctggtgtgag atggtttctc actgtggttt 42360
tgatttgcat ttctctgatg gccagtgatg atgagcattt tttcatgtgt ctgttggctg 42420
cataaatgtc ttcttttgag aagtgtctgc tcatatcctt cgcccacttt ttgattgggt 42480
ttgttttttt cttgtaaatt tgtttgagtt cttttgtagat tctggatatt agccctttgt 42540
cagatgggta gattgcaaaa ttttttcccg ttctgtaggt tgcctgttca ctctgatggt 42600
agtttctttt gctgtgcaga agctctttag tttaattaga tcccatctgt caattttggc 42660
ttttgttgcc attgcttttg gtgttttaga catgaagtcc ttgcacattc ctatatcctg 42720
aatggtattg cctaggtttt cttctgggggt ttttatggtt ttagatctaa catttaagtc 42780
tttaatccat ctggaattaa tttttgtata agatgtgagg aatggatcca gtttcagctt 42840
tctacatatg gctaggcagt tttcccagca ccatttatta aatagggaat cctttcccca 42900
tttcttgttt ttgtcatgtt tgtcaaagat cagatggttg tagatgtgtg gtattatttc 42960
tgagggctct gttctgttcc attggtctgt atctctgttt tggtaccagt actgtgctgt 43020
tttgtatagt ttgaagtcag gtagcgtgat gcctccagct ttgttccttt ggcttatgag 43080
tgacttggca atgcgggctc ttttttggtt ccatatgaac tttaaagtag ttttttccaa 43140
ttctgtgaag aaagtcattg atagcttgat ggggatggca ttgaatctat aaattgcctt 43200
ggacaggatg gccgttttca cgatagtgat tcttcctatc catgagcgtg gaatgttctt 43260
ccgtttgttt gtgtcctctt ttatttcatt gagcagtggt ttgtagttct ctttgaagag 43320
gtccttcaca tcccttgtaa gttggattcc taggtatttt attctctttg aagcaattgt 43380
gaatgggagt tcactcatga tttggctctc tgtttgtctg ttattggtgt ataagaatgc 43440
ttgcgatttt tgcacattga ttttgtatcc tgagactttg ctgaagttcc ctatcagctt 43500
aaggagattt tgggctgaga cgacggggtt ttctaaatat acaatcatgt catctgcaaa 43560
caggtacaat ttgacttcct cttttcctaa ttgaataccc tttatttctt tctcctgcct 43620
gattgccctg gccagaactt ccaacactat gttgaacaga agtggtgaga gagggcatcc 43680
ctgtcttgtg ccagtttttca aagggaatgc ttccagtttt tgcccattca gtatgatatt 43740
ggctgtgggt ttgtcataaa tagctcttat tattttgaga tacatcccat caatacctaa 43800
tttattgaga gttttttagc atgaagcgtt gttgaatttt gtcacaggcc ttttctgcat 43860
ctattgagat aaccatgtgg ttttagtctt tggttctgtt tatatgctgg attacgttta 43920
tttatttgcg aatgttgaac tagccttgca tcccagagat gaagcccact tgataagttt 43980
tttgaagtgc tgctggattt ggtttgccag tattttactg aggattttg catcgatgtt 44040
catcagggat attggtctaa aattctcttt ttttgttgtg tgtctgccag gctttggtat 44100
caggatgatg ctggcctcat aaaatgagtt agggaggatt ccctcttttt ctattgattg 44160
gaatagtttc agaaggaatg gtaacagctc ctccttgtac ctctggtaga atttggctgt 44220
gaatccatct ggtcctggac ttttttatttg gttggtaggc tattaattat tgcctcaatt 44280
tcagagcctg ttattggtct attcagagat tgaacttctt cctcgtttag tcttgggagg 44340
gtgtgtgtgt ccaggaattt atccatgtct tctagatttt ctagtttatt tgcatagagg 44400
tgtttatagt attctttgat ggtagtttgt atttctgtgg gatcagtggt gatatccct 44460
ttatcatttt ttattgcatc tatttgattc ttctctcttt tcttctttat tagtcttgct 44520
agcggtctat cagtttttatt gatctttca aaaaaccagc tcctggattc attgatttt 44580
tgaaggcttt tttgtgtctc tatctccttc agttctgctc tgatctcagt tatttcttgc 44640
```

2826

```
cttctgctag cttttgaata tgtttgctct tgcttctcta gttctttaa ttgtgatgtt 44700
agggtgtcaa ttttagatat tttctgcttt ctcttgtggg catttagtgc tataaatttc 44760
cctctacaca ctgctttaaa tgtgtcccag agattctggt atgctgtgtc tttgttctcg 44820
ttggtttcaa agaacatctt tatttctgcc ttcatttcgt tatgtaccca gtagtcattc 44880
aggagcaggt tgttcagttt ccatgtggtt gagcagtttt gggtgagttt cctaatgctg 44940
agttctagtt tgattgcact gtggtctgag agacagtttg ttataatttc tgttctttta 45000
catttgctga ggagtgcttt acttccaact atgtggtcag tgttggaata agtgcgatgt 45060
ggtgctcaga agaatgtata ttctgttgat ttggggtgga gagttccgta gatgtctgtt 45120
aggtctgctt ggtgcagagc tgagttcaat tcctggatat ccttgttaac tttgtctcgt 45180
tgatctgtct aatgttgaca gtggggtgtt aaagtctccc attattattg cgtgggagtc 45240
taagtctctt tgtaggtctc taaggacttg gtttatgaat ctgggtgctc ctgtattggg 45300
tgcatatata tttaggatag ttagctcttc ttgttgaatt gaattgatcc ctttaccatt 45360
atgtaatggc cttctttgtc tcttttgatc tttgttggtt taaagtctgt tttatcagag 45420
actaggattg caacccctgc ctttttgttgt tttccatttg cttggtagat cttcctccat 45480
cccttttattt tgagcttatg tgtgtctctg cacatgacat gggtctcctg aatacagcac 45540
actgatgggt cttgactctt tatccaattt gccattctgt gtctttaat tggagcattt 45600
agcccattta catttaaggt taatattgtt atgtgtgaat ttgatcctgt cattatgatg 45660
ttagctggtt actttgctca ttaattgatg cagtttcttc ctagccttga tggtctttac 45720
aatttggcat gtttttttcag tggctggtac cggttgttcc tttccatgtt tagtgcttct 45780
ttcaggagct cttgtagggc aggcgtggtg gtgacaaaat ctctcagcat ttgcttgtct 45840
gtaaaggatt ttatttctcc ttcacttatg aagcttagtt tggctggata tgaaattctg 45900
agttgaaaat tcttttcttt aagaatgttg aatattggcc cccactctct tctggctcat 45960
agagtttctg ccgagagatc agctgttagt ctgatgggct tccctttgtg ggtaacctaa 46020
cctttctctc tgaacatttt ttctttcatt tcaactttgg tgaatctgac aattatgtgt 46080
cttggagttg ctcttctcga ggagtatctt tgtggcattc tctgtatttc ctgaatttga 46140
atgttggcct gccttgctag gttggggaag ttctcctgga tagtatcctg cagagtgttt 46200
tccaacttgg ttccattctc cctgtcactt tcaggtacac caaacaaacg tagatttggt 46260
cttttcacat agtcccatat ttcttggagg ctttgtttgt ttctttttac tctttttttct 46320
ctaaactttt cttctcgctt catttcattc atttgatctt tgatcactga taccctttct 46380
tccagttgat tgaattggct actgaggctt gtgcattcgt cacgtagttc tcgtgccatg 46440
gttttcagct ccatcaggtc atttgaggag ttctctacac tggttattct agttagccat 46500
tcgtctaatc tttttttcaag gttttttagct cctttgcgat gcgttcgaac ttcctccttt 46560
agctcggaga ggtttgatcg tctgaagcct tcttctctca actcgtcaaa gtcattctcc 46620
gtccagcttt gttccgttgc tggtgaggag ctgcgttcct ttggggggggg agaggtgctc 46680
tgatttttag aatttttcagc ttttttgctc tgtttttttcc ccaatcttta tggtttcatc 46740
tatctttggt ctttgatgat ggtgacgtac acatggggtt ttggtatgga tgtcctttt 46800
gtttgttagt tttccttcta acagtcagga ccctcagctg caggtctgtt ggagtttgct 46860
ggaggcccac tccagactct gcctgggtat cagcagcgga ggctgcagaa cagcaaatat 46920
tggtgaacag caaatgttgc tgcctggtca ttcctctgga agcctcgtct cagaggggta 46980
cccggccgtg tgaggtgtca gtctgccect actggggggt gcctcccagt taggctactt 47040
gtggatcatg gacccacctg tcactgagga ggcagtctgt ccattctcag atctcaaact 47100
ctgtgctggg agaaccacta ctctcttcaa agctgtcaga cagggacatt taaatctgta 47160
gaggtttctg ctgcctttgt tcggctatgc cctgccccca gaggtggagt ccacagaggc 47220
aggcaggact ccttgagctt cagtgggctc cacccagttc gagtttcctg gctgaggctg 47280
ccgccttgta gttcaatctc agactgctgt gctagcaatg agtgaggctc catgggcatg 47340
ggaccctctg agccaggagt gggatataat ctcctggtgt gccgtttgct aagaccattg 47400
gaaaagcaca gtattagggt ggggggtgacc caattttcca ggtgctgtgt gtcacagctt 47460
tgcttggcta ggaaagggaa ttttctgacc ccttgcgctt cccgggtgag gtgatgcctt 47520
gccctgcttc agctcacact cggtgtgcca cacccctgt tctgcgccca ctgtccgaca 47580
agccctagtg agatgaacct ggtacctcag ttggaagtgc agaaatcacc cgtcttctgc 47640
atcgctcatg ctgggagctg taggctgaag ctcttcctat tcgaccatct tggaaccgct 47700
taattttgta tctttagtag agacgaggtt tctccatgtt ggtcaggctg gtctcaaact 47760
cctgacctca ggtgatctgc ccaccttggc ctcccaaagt gctggaatta caggtgtgag 47820
ccaccactcc tggccttatt tttaatatat ccgttaaatt tgaaaagtca caattttggc 47880
ctggcacagt ggctcacgcc tgtaatccca gcactttggg aggctgaggt gggcggatca 47940
cttgaggtca agagttcgag accagcctgg ccaacatggt gaaaccccat ctctattaaa 48000
aatacaaaag tttgccaggt atggtggctc atgcctgtaa tcccagctac ttgggaggct 48060
gaggcaggag aatcgcttga acacaggaga cggaggctgc aatgagccaa gattgtgcca 48120
ctgcactcca gcctgggcaa cagagtgaga ctccatctca gaaaaaacaa aaagaaaaga 48180
acagtcacaa tttcattttt accataatat atctcatttt tctcatgctg aacagtccag 48240
ggagaaaaat aataataaag tatatcttat tttcttaatg actttatgtt aaccagtttg 48300
```

2827

```
agggagtggc tgtggttttc acatttcctg ttttgttctg aatttaattt aggtcttaaa   48360
cagtgaaaat tttatttaag aaaattgata ggccgggcat agtggctcat ggtttttttt   48420
ccgcttaaca cttttttctt tttgctcttg ttgcccagac tgcaatgcaa tggcacaatc   48480
tcggctcact gcaacctctg cctctgggtt caagtgattc tcctgtctca gcctcctgag   48540
tagctgtgat tacaggcatg cgcaaccatg cccgactaat tttgtatttt tagtagagat   48600
gaggtttctc catgttggtc aggctggtct tgaactcctg acctcaggtg atccacccgc   48660
cttggcctcc caaagtgcag ggattacagg tgtgagccac catgcctggc ccgcctaaca   48720
ctttttttga dacagtcttg ccctgtcacc aaggctggag tccactggtg caatctcagc   48780
tcactgcaac ctccaccttc tgggttcaag caattctcat gcctcagcct cctgagtagc   48840
tgggattaca ggtgtgtgcc accatgccca ctaatttttgt tatttttttgg tagagatgga   48900
gtttgccacg ttggccaggc tggtctcaaa ctcttggcct caagcgattt gcccatctcg   48960
gcttcccaaa gtgctggggt tacaggtgtg agccaccaca cctggccaag cctaacactt   49020
tggaaggcca acatgatcag ttagcttcag cccaggagat tggaaccagc ctgggcaatg   49080
tagggagacc ccatctctac caaaagtttt aaaatcagcc aggtgtgtgt ggtggcacat   49140
gcctgtagtc ccaactgctt gagagtctga ggcaggagga ttgcttgagc ccaggaattt   49200
gaggtggcag tgagctgatt ataccactgc actccagcct gggcgacaaa gcaagaccct   49260
ttctcttaaa acaacaacaa agaagattga taatttaatt tttcatacta tcagttggtt   49320
atacaaaaaa cttacttttg aaattttaag gaattaccac tattgaaact aatattttgt   49380
cacagatgtt gatatactta atcagaaatg tccagtttta gccaggtggc tgtgcactct   49440
tgtagtccta gccactcaga aggttgagtc agaagggttg cttaagccca gaagtttgag   49500
gccagcctag gcaacatagt gagactcacg tctctttaaa aaacaaagaa agaaatgttc   49560
aattttggtt ttcttttttaa aaatagctgt ttagaagtag atgattgcag gccactaagt   49620
agacttgtga cattgcccca agtttcatta aaatgggtct tcattaattt ttggaaattc   49680
aggaaccttt gttataccttt gatttttact tgttttgatt tgttctgtta tttttctgga   49740
aatcggttta cgttaagatt acttaaaatt tgcatatttt cagaaattgg gcaaatggtt   49800
atggtcatac tagtaatttt ttaataaaaa ttttttttaac cttaaaaagt ttagactttt   49860
tatttaggat tcatttaggt tcagcctagt gaggggcgta tagctgctgg gttaaacata   49920
agagactctg ggccaggcac agtggctcac gcctgtaatc ccagcacttt gggaggccga   49980
ggcgagtgga tcatgaggtc aggagttcga gacccacctg gccaatatgg tgaaaccctg   50040
tctttactaa aaatacaaaa attagctggg tgtggtggcg cgtacctgta gtcccagctg   50100
tttgggaggc tgaggcagga gaatcacttg aacctggaag gtggaggttg cagtaagcca   50160
atacagagcc actgtactcc agcataggggg aaagagctag actccatctc tacaaaaaaa   50220
catagacttt ggagtcaaat tgcctggttg ttggatccca ggtctgagtt ttactgtttg   50280
tgtaacctgg gataggttat ttcacatctc tgagcctccc ttttctcact tatggaatgg   50340
agataataac tgtatccatc tcatagtgtt attgtcattt aaatgaggta ctatacataa   50400
agcttttaga gtagtgcctg gtagatagta agtgatcagt aaatgttaaa tatttgcatt   50460
aaaccttcac ttgtgtgact taaagacaat ttgtattgtg agtggaatct aatgaaatgt   50520
acaaatgtgc tgtgtccgtg cttcacctaa tgctgatgca ggtcagctct gagagcaagg   50580
gtgaggcgat ggcaaagggg cttgagaaaa gtcgtgagga attcaaatag ctggtttggg   50640
gaaatagaaa aagagcctac caaggacatg tggtaggcca caagggctaa gtgaggttgg   50700
agaccttgag cctgtcaaca ttcattaaaa agttgaaagt acagagttca tggttgctgc   50760
acttggaaaa tacaaacgtg agtgatcctt ttgaattgac cttacaaagg attttccagt   50820
tcattgatcc tgcagtctcc aggcagttta aagtaatatg aggccaggca cggtggctta   50880
tgcctgtaat cccagcagtt tgggaagccg aggcgggcag atcacgtgag gtcaggagtt   50940
tgagaccagc ctgaccaaca tggtgaaacc ccatgcaaaa aattagccag gtgtggtggc   51000
gcatgcctgt aatcccagct acttgggagg ctgaggcagg agaatcgctt gaacccagga   51060
ggcggaggtt gcagtgagct gagatcgcgc cattgcactc caggctgggt gacagagtga   51120
gactctgtct caaaaaaaaa aaaaaaaaaa aagtaacatg aattaacaag tgtaactgtg   51180
tcttccttac tttatataat agatgtcaga gacttatggt tgattactaa cttaaaatca   51240
tgaggcactt taaactctgt cttaagtata aaatgttttc acataattgt gattttaggc   51300
caaagaccgg gttccagatg tggttagaag aaaatagaag taatattttg tctgacaatc   51360
ctgactttc agatgaagca gacataataa aagaaggaat gattcgattt agagtattgt   51420
caactgaaga aagaaaggta aggataattg tgccgagatt gagatcttag tgaattccca   51480
gatttaaaaa attcttatag aaatgccttt tggctgggta tggtgtctta tgcctgtaat   51540
cctagcacat tgggaggtcg aggcggatca cttgagctca ggagttcgtg accagcctgg   51600
gcaacatagt gagacatcgt ctctaataat aataataaca acaacaaaga taataacgat   51660
catgacaact aaaaaaaaaa ggaaaagcct ttttctgttt ttggaaattg aatacatcca   51720
ccaaactttt taaagaggaa agtaagtgcg gatatatggt aatatggata tgtagtaatt   51780
attatgtaat ggtgatgggt ttttgttttt gttttgtttt gaggcaggtc ttgttctttc   51840
acccaggcag gagtgtcgtg gtgtgatcat ggctcactgc cacctcgacc tcctgggcac   51900
aagcaattgt cctcttttt tttttatag agacaacctc tcactgtgtt gcccaggctg   51960
```

2828

```
gatggttaat ttttttgacgg tttactgttt taatctctat aagttcctgt atgttttaag    52020
ttaggagaat accccaagaa aagatgcatt tgttaaaaat caaaagtgtc aagctgagtt    52080
cgttggctca agcctgtaat cctagcactt tgggaggcca aggcaggagg atctcttgag    52140
cccaggagtt tgagaccagc ctagacaaca tagtgataca ccatctctac aaaaatttaa    52200
aaattagcct ggcatggtgg cacacacctg tagtcccagt tactcaggag gttgaggtgg    52260
gaagatcact tacttgagcc caggaggtca aggctgcagt gagccgtgat tgtgtcactg    52320
tactccagca tgggtgacag agtgagaccg ggtctctagg gggaaaaaaa ttaataagta    52380
aaaatgaatt cacatttttt gaatactact ttagggttct tgcaagcaga attttttaaaa    52440
attgtatcta cttacacatt aaatactaca tgagactatt ccttttggga aaaagactgg    52500
tgttctgttc cagcctttca catggaaatt aggacaggtg gctggcttgc ttctgataaa    52560
cttctgccat gtgaaggaag gaaggcacaa tctctcagtt agaagtggaa ggaatgtgtg    52620
tggtgtacca gttaaatcct caggtttcac ttccccagga atggcagggc gcagcacagg    52680
cacctagtaa cgtagatact tgctttggta aattgggttt tatgaaaaag gtgttgcata    52740
atgaggaagc cagaaactgg tttaaacacc tttagcgtca tttagaacct catttacaat    52800
tttatgtttc tcatttgttg ttcaataaaa tggcgtctaa ataaataaga ctttacactg    52860
caaaagagga agagacttgg caaagtctgt gattgtgttt ttgaatactt aaaaatgtaa    52920
tcagtatttt taaggtaaac cctaaacatt tacttaaatc cagtttgtta atgtgagaaa    52980
ttctacagct tgaagagccc ttgaaatggc cagggaaata aagtaggagt ggggaactat    53040
tatagattaa aagagatttt agagacagat gaaatgaatg gaccttgtct ggctcttgct    53100
gagtgaataa aaaccaaacc ccaaagaata tatactcatt tatataacat tcctgaaatg    53160
acaacatgat caagatggag aatagagtag tggttgccag gggttggagt cggagttggg    53220
gcttggggaa gaggttctgt attttgactg tggtggtaaa caaaccaacc cacaataaaa    53280
gtaaatacat acatacgctc aaatgagtag aagtaaaatg ggattgtttc aatgtcagtt    53340
ccctatagtt gtgattgttg ggctatagtt ttgcaaaatg ttaccactgg ggaaaactgg    53400
gtgaaggcta cacaggatct ttctgtatta tttcatacaa ctgcatgtga aactgcaatt    53460
atcttagaat aaaaagtttc attttttatta tttatttatt tatttatttta tttatttttt    53520
gagacggagt cttgctctcg cccaggctgg agtgcagtgg cgtgatctca gctcactgca    53580
ggctccacct cccgggttca ctctagtctc ctgcctcagc ctcccaagta gctgggacta    53640
caggcgcccg ctaccatgcc cggctaattt ttttgtattt ttagtagaga cggggtttca    53700
ctgtgttagc caggatggtc tcagtctcct gacccgtga tccacccacc tcggcctccc    53760
aaagtgctgg gattacagac atgagccacc gtgcctggcc aaaagtttca tttttaaata    53820
gtactgcaat tatagtattt tgcaactaat atgattaata taagcaaagc ttagattgag    53880
atataaaagt agtgtaaatc tttaatgtgc tctgcattta agtaataaaa gatttgttaa    53940
caatgagaac acttaattca agtgctaatt attctgcttt atatataaaa atattacctg    54000
gaaaagtaaa taaatcattt acttcttatt tgttattttc taaaaatctt tccttttcac    54060
tcctgccatt ttacaaaggt gtgggctaac aaagccaaag gagaaacggc aagtgaagga    54120
actgaagcaa agaagcgaaa acgtgtggtt gatgaaagtg atgaaacaga aaaccaggaa    54180
gaaaaagcaa aagagaacct gaatttgtct aaaaagcaga aacctttaga ttttttctaca    54240
aatcagaaac tatcagcttt tgcatttaag caggagtaaa ggaagaaagt gaccctaggg    54300
aagtaatgga tttttttttta ctcatctttg aatatagact cgagtctttg ggaaactcat    54360
tatatatata ttttttaaag agtttgaagc aactgtttgt ctttataaga taatgtagta    54420
attatattgg tgtaggtaac aggacatatg taaaaactat catctttgca gattactctg    54480
cctccaaatg cagggccttt cagagatgca ttgtgattgt aattactgag .ttgaagctcc    54540
aaccaatttg aatttgtttc ttaaccttga aaaatcatta aagccaaggt attaaaacct    54600
ttgtgcatta ataccttcta ggggtttggt tcatttggtt tttgtcatgt gcaaggaagg    54660
acaatagtcc tctttccaag tgtgttagca tagacttctc tatatgtttc tactagacct    54720
aggggatgac gtctttttaat aatactggcc ctaaacatgt aaataatctt gtaggtgaga    54780
cttttttcttt tgtgtttcgg aaatttccta tgtggctttc agttgtctgt ttgtatagcc    54840
tggatttttt tgaggtaaat gaaactttct catttgt                              54877
```

```
atggtcttaa tattatcttt ccacgaaatg gatatatttc tagaaaatat atatttacta      60
ccataatttc taccaccacc cccatttgc tctgcattat acacagtaga gaagaactga     120
agacactgct gtgacagtat tgcagtccaa ggcatcatgt gctcttggtg ggatactctg     180
attatcagca tcaacagtac tttactgagc aagactttga aggcctgaga agagagcaaa     240
```

```
gttatggaaa gtatttaact cttattttat attgaacaaa caaggtttaa tcatgtcata   300
cattttggt  tttctaagca gagactaata caaatgcagc cacataaagg cagtgtactg   360
ggggtgggag ggaaggaaac aatcacataa aatcagctga ctcaaaattg aggatagtta   420
ataggttgaa agggaaaaag tatgttgaaa atttagacat aaatgaacca agaatattcc   480
ttatctggtg atgattaaag ttaggaaaac atacattttt tattttttaa ttagtagctg   540
ctatcagaga cattatagca cagtggttat gagcacagat tccaaagcca gattacctag   600
gttcggagac ccgcttctct acctactact aatagttggg tcatgttggg ccggtgaccc   660
aaattctagc cttcattcac tcatctgtaa aatggatata atgatagtac ctactttata   720
ggttgttatg agaattgaat gaaatgaaag cccttagttt ctgacacata gtaatctttt   780
atataaatgt tagttactat tctgataatg atgatgctgt tggttatttc atcttgcttt   840
gtcattaggt ttgattctga atactataca aactaatttt gatttcaaga tcttaagtaa   900
aggtttattt atagtacatt ggaaagcatg tttgtagaca tgtattttgt gtttggttcc   960
tcaacttgct ttgtatatat tttataatac taggttgata taaaagtaaa tgcagtttcg  1020
ccatttcagt ggcaaaaacc gcgatttctt ttgtgccaac ctaatgctta aggatataat  1080
ctgtgtatat tgtatttcag attcatagca acctaataac aaggatttac aaaagggttt  1140
ttacttccct actttttttt ggctgaagga aggttttgt  attgacttgg tttaacttac  1200
aaatcagaac tttgaaacca agaaacatta tccttatttc tctgctatat aatagtaaac  1260
ctgtttttt  ccagtgttct ttttttttt  ttccagagaa ttgggactga atagtatgaa  1320
agtgaaaatg gaaataaatt aattattaat catcatcata tcaataa              1367


<210> 5891
<211> 272
<212> DNA
<213> Homo sapiens


<400> 5891
tgggcgctgt ggctcacgcc tgtaatccca gcactttggg agtctgaggc gggtggatca    60
cgaggtcaag agatcaagac catcctggcc aacatggtga accccatct ctactaaaaa   120
tacaaaaatt agctgggcat ggtggcatgc gcctgtagtc ccagctactt gggagactga   180
ggcaggagaa tcgcttgaac ccgggaggcg gaggttgcag tgagccgaga tcacgccact   240
gcactccagc ctggcgacag agcgagactc ca                                272


<210> 5892
<211> 1628
<212> DNA
<213> Homo sapiens


<400> 5892
gaaaaaaaat tttggctggg cacggtggct cacggctgta atcccagcac tttgggaggc    60
cgaggccggt ggatcacctg aggtcaggag ttcaagacca gcctggccaa catgacgaaa   120
ccccgtctct actaaaaata caaaaattag ctgggctaat ttcacatctg tgaacatttt   180
atcgccttca tcataaatat gaggcacagt cctccattaa aaatttttt  ttttctttga   240
ggcaaagtct ccttctgttg cccaggctgg agtgcaatgg tggctccctg caacctccgc   300
ctcctgggtt gaagcgattc tcctgcctca gcctcccaag tacctaggat aacaggcacc   360
caccaccacg ccctgctaat ttttgtatt  tttagtagag acagggtttc accatgttag   420
ccaggctggt cttgaattcc tgacctcagg tgatccaccc accgcagccc ccaaagtgc   480
tagggttaca gacatgggcc accgtgcctg gcctccccat tttttttttt tgagacggag   540
ttccgctctt gttgcccaag ctggagtgca atggcgcgat ctcggctcac tgcaacctct   600
gcttcccggg ttcaagtgat tctcctgcct cagcctcctg agtagctggg attacaggct   660
tgtgccccca cgcctggcta attttgcat  ttttagtaga cacggggttt cactgtgtta   720
gccaggatgg tctcgatctc ctgacctcgt gatctgccca cctcggcctc ccaaagtgct   780
gggattacag gcatgagaca ccatgcccgg cctccccatt tttttaatt  agaaaatcca   840
aaaacaattt tttgtcagct tgagtacaca aacttttagg actataaatg gaatggttga   900
atatcttctt atagcactta gttattaatt tactcatatc aagtatttt  caatgtatgg   960
atttagaaac acttttcat  ctcattttat taaacatcag ttttcagagc acagttatgt  1020
ttacttccat ttaaaaggtt tatgagggtc tgggtacggt ggctaacgcc tacaatccca  1080
gaacttttgg aggccgaggt gggtttatca cctgaggtca ggagttcaag aatagcctgg  1140
ccaacatggg gaaaccccgt ctctactgaa aatacaaaaa ttagccaggt gtggttgtgt  1200
aggcctgtaa acccaggtac tcaggaagct gaggcaggaa aatcacttga gcctgggaga  1260
```

2830

```
tgaagtttgc agtgagccaa gatcacgcca ctgcactcca gcctgggtga cagggtgaga      1320
ctctgtgtca aaaaaaaaaa aaaaaaaaaa aaaggctggg cgctgtggct cacgcctgta      1380
atcccagcac tttgggagtc tgaggcgggt ggatcacgag gtcaagagat caagaccatc      1440
ctggccaaca tggtgaaacc ccatctctac taaaaataca aaaattagct gggcatggtg      1500
gcatgcgcct gtagtcccag ctacttggga gactgaggca ggagaatcgc ttgaacccgg      1560
gaggcggagg ttgcagtgag ccgagatcac gccactgcac tccagcctgg cgacagagcg      1620
agactcca                                                                1628


<210> 5893
<211> 1366
<212> DNA
<213> Homo sapiens

<400> 5893
atggtcttaa tattatcttt ccacgaaatg gatatatttc tagaaaatat atatttacta        60
ccataatttc taccaccacc cccattttgc tctgcattat acacagtaga gaagaactga       120
agacactgct gtgacagtat tgcagtccaa ggcatcatgt gctcttggtg ggatactctg       180
attatcagca tcaacagtac tttactgagc aagactttga aggcctgaga agagagcaaa       240
gttatggaaa gtatttaact cttattttat attgaacaaa caaggtttaa tcatgtcata       300
catttttggt tttctaagca gagactaata caaatgcagc cacataaagg cagtgtactg       360
ggggtgggag ggaaggaaac aatcacataa aatcagctga ctcaaaattg aggatagtta       420
ataggttgaa agggaaaaag tatgttgaaa atttagacat aaatgaacca agaatattcc       480
ttatctggtg atgattaaag ttaggaaaac atacattttt tattttttaa ttagtagctg       540
ctatcagaga cattatagca cagtggttat gagcacagat tccaaagcca gattacctag       600
gttcggagac ccgcttctct acctactact aatagttggg tcatgttggg ccggtgaccc       660
aaattctagc cttcattcac tcatctgtaa aatggatata atgatagtac ctactttata       720
ggttgttatg agaattgaat gaaatgaaag cccttagttt ctgacacata gtaatctttt       780
atataaatgt tagttactat tctgataatg atgatgctgt tggttatttc atcttgcttt       840
gtcattaggt ttgattctga atactataca aactaatttt gatttcaaga tcttaagtaa       900
aggtttattt atagtacatt ggaaagcatg tttgtagaca tgtattttgt gtttggttcc       960
tcaacttgct ttgtatatat tttataatac taggttgata taaaagtaaa tgcagtttcg      1020
ccatttcagt ggcaaaaacc gcgatttctt ttgtgccaac ctaatgctta aggatataat      1080
ctgtgtatat tgtatttcag attcatagca acctaataac aaggatttac aaaagggttt      1140
ttacttccct actttttttt ggctgaagga aggttttgt attgacttgg tttaacttac       1200
aaatcagaac tttgaaacca agaaacatta tccttatttc tctgctatat aatagtaaac      1260
ctgttttttt ccagtgttct ttttttttt tccagagaat tgggactgaa tagtatgaaa      1320
gtgaaaatgg aaataaatta attattaatc atcatcatat caataa                     1366


<210> 5894
<211> 9321
<212> DNA
<213> Homo sapiens

<400> 5894
gctcccggag ccctgcctgt tccctgtcca tccaggccag cagctgaagg agcctcacct        60
gcctcccttc tctgagtagc acggatttga ggtaagaaat cccccagaac ccccattccc       120
agtgcagcct gtggcagaga tcggtccagt gtctcctccg actgccttag tgcccgctaa       180
acgtttgggg aggggagagc tcggtgccaa actgctctcg tgtggggcaa gtgctgagtt       240
aggctccttg ggggacttta cctcactggg ccctgcttcc tgggttctgt ccttgccctt       300
cagcttccaa acagggaaga gcaggtgact actgagaggt gaggatggtg gctctgggct       360
aggtggccct gggaaaggtg ggggatcccc agtgcctgga ggcagaccct tctgaggatg       420
gtcacacgcc ttgtgcagca tcttggccac cccacagggc tgaaggagaa ggaacctggc       480
tgggagctta gttcatgtct gggtttttccc tccatgtcca ggagaagcag cgaagatgtc      540
cagcgagcct ccccctcctt atcctggggg ccccacagcc ccacttctgg aagagaaaag       600
tggagccccg cccacccag gtaggggtc actgttcctg aggctccata ttgcagcccc        660
ctgccgccat ggcatggttg ggactctcta agtggtgatg cccactccag ggttacccct       720
gggccccatc tgtgtcccaa aacagtggcc tctggtcgag ctcatcgtgc agaggctcca       780
gctcagtctc ctctttctgc ctctctctgt ccaggccgtt cctccccagc tgtgatgcag       840
cccccctccag gcatgccact gccccctgcg gacattggcc ccccaccctа tgagccgccg       900
```

```
ggtcacccaa tgccccagcc tggcttcatc ccaccacaca tgagtgcaga tggcacctac      960
atgcctccgg gtgagtgggg aagggatctg aggggagcat ggggaactcc tggctgctgt     1020
ctggcctgcg ctggctgtcc tcagtacagg tgggcatctg ctgtagggca gggactccaa     1080
cacgcccaac cagcccttgc ctagggctca ggctgtgtgt ggacagggac tgtggacgtg     1140
ggaaggtggg actgctctta ttcaggctgg tcaggaaggg ctggtccttg gcacaccagg     1200
acctgacatg ggtggggagg ggcgccttgt gtgcaggaga ggggtgggtg acccgcaagg     1260
ctttccctct cttggtcatg ggcttgaggc tgagtgccct gtccttgcat gctggagaca     1320
gacagaggag cagagggacc gggccatgtg cctggctctc tgccacatct gtcatgggcc     1380
ccaaggggtg gggaccagga agggctggga gaatgtggcc ccacttgact tagggcccca     1440
gctgtaaggc ctcccactgg cccgttagga gggcggtagg aggtctgagg cgtagccttg     1500
cacgctgggc gctgtggacc gtggggcttt gcgccaatct ctttgtctgg tgcaggtggc     1560
aggccagtga cctctcgcct ccatcttctg tgccattcca ggtttctacc ctcctccagg     1620
cccccaccca cccatgggct actacccccc agggccctac acgccagggc cctaccctgg     1680
ccctgggggc cacacagcca cagtcctggt cccttcagga gctgccacca cggtgacagt     1740
gctgcaggga gagatctttg agggagcgcc tgtgcagacg gtgtgtcccc actgccagca     1800
ggccatcacc accaagatct cctacgagat tggcttgatg aatttcgtgc tgggtttctt     1860
ctgttgcttc atggggtagg tggtgtgggc actggtaggg tgggggctgc accagggtca     1920
actggctgcc tctgcctcct ccgcagcagg cctcagcctg ttcttccctg tctctgattc     1980
agatgtgatc tgggctgctg cctgatcccc tgcctcatca atgacttcaa ggatgtgacg     2040
cacacatgcc ccagctgcaa agcctacatc tacacgtaca agcgcctgtg ctaacggagc     2100
tgggactcgg gactcccccg cctgtcagtc tggccccctg tgctttgctc cctgtgctca     2160
gtggtcactt ccccgctccc acttggggct gggagccgtg ccaccatccc ctagaagtcc     2220
tgtcctcttc accctgccct acctgagccg ctgactcttc tggcaaaaat tctgttggga     2280
tttaaggcca agggtcagtg ggtggcaggg ggctgacaat gagcttgtgt gttgttggtc     2340
tgcttggtgt gtgtgatcgg gaagataagc tgggaggggt ctcctgctgg ggtcctgatg     2400
cctctgtttc caaacaaggt acaggttcag tccagactct ttccccctgg gaccaacagc     2460
agccagagca gttagccagt tagtccccag gcctgtggcc acaggcgttt ctgacctgct     2520
gggccgagaa tgggtaagtt gtctggagtc aggtgggccc acgtaggaca gggtcacaaa     2580
gcctgggttt gtttctgggt actttgcgcc tctggggtgc tagaggtggg gcatggtggc     2640
tggaagtaaa actgccaact ctggccctca gaactctcag gtatagaagc ccaggatgtc     2700
taataccctg tcccagtgcc cgagagctgc ctggtgtcag gtagagagga cactgtacct     2760
gggtgaatga tcagaccctg gtagctaaga aggaacttgt ccctttgagt cagtgtgcag     2820
accccctttc aggccatgcc tctgtgaacc ctgtattgct ggggccggaa ggagcccctg     2880
agcctagccc cttccgtct gccctgtgtc ctcactgcgt gtgggtatga cctctgcctg      2940
gtggctggtg tatcccaact gggcaagaga tggcagaggg tccccttgt gggtgcgctt     3000
ggatgtgcag agccttctcc atggattttc ttccctgtaa gtgccgggcc cctcacccca     3060
gctgacaggc tgttgctgtg cctgctcaca cctgctcctg caggcacact gggctaggga     3120
cgaggaagga gcagccacaa gtggtagaac tgccttggtg gacaccagcc tcgccctgtc     3180
tttatttcct gaatggtttg tgaacttgct cacctggacc actgtatcct gccactgtcc     3240
ttcctggtct cgcactgcca ctgcatggcc tcctgtcact gtgaatcgtg gcccagtctc     3300
agtttgtagt ttctcattaa attggccctt tcactccccc gccctgggcc tctgctctct     3360
tgcctggctt ccttcttttt tgagggaaag agggtggggc tgcaggcagt ctactggcag     3420
gacgggaggc tgagtcctca gggtctcaca ccctcagtgc tgatgccatg ccaactgcct     3480
gggacaacac caacacgtaa ggacctaatt aaaccaaacc agagtcgggt gtagaccagc     3540
cctgggattt ccagctgtga ctgggccagg gcacacgttg gtctcggcag tggctgtaag     3600
gtcaccttcc ttcctctgat gctggtttca accatctata tatggcatcc acgcatggga     3660
tctgcaagct ggagccctcc tacccgcagg cttgagcaca gcatcatcca gccctgggga     3720
ggcgcaccct taagcaacac agactgggct gaggctgaca ggcagaagac taacagagcg     3780
cagtctgcac acgcaggttc tgggcgacct ctggccctgg ccatctctgc actaactcat     3840
ctgaattatg aaggtggcag tcttggtcag tagtttaaag agtttcccta cttttttaacc     3900
ctttttgaaa taaaactttt acaggtagta gattcctatt aataaaatta tttaagttca     3960
tgtttctctt ttagagaatg aattgtttaa atacaaatat gtgctttttt aaaaccctta     4020
tttttaaata tatatatata ttttaaaaaa acctttttaag taggaaacct ctaaggtatt     4080
tctgagctaa aaaatagcag tgctggatac acttttaaaga tctttgcaag acggttagag     4140
tgactttgct ttggagacta gaggtgctgg agagtagacc cagagcagga ggtggctgct     4200
gggagccatg atggacgatg tccactcccc acacagacat aacatgccct tgcttctgag     4260
ggactctcct atggggaggt ggcttgaccc acccggtgcc aggaggcagg gaaggaggta     4320
gcttgcaaag cccactttat tgagtgctgg agcatttaca cagcgcggag gaggagataa     4380
gctggggctg agcaaaccgc acccaagggg ttagagggat tctgggtgag agggatgagc     4440
tcccaaggcc tctgaggctt ccacccacac ccaccctcac tcccagggtc caagagaggc     4500
ccagaagttg tacagcagca tccagcaagg cccctcgca cagcttggac ttacaggcca     4560
```

2832

```
ctcacctcca acaggggaga tagtcaccca tgtactgcaa aaacagggac taccggaagc    4620
agcctagggc ccagaagtgt ggaagcctgg agtagagctg ggtcgggggc caggcttgct    4680
gcactgtgcc gactgctccc agggtgacgg cctgtgccca gtgcggaata tggcccatag    4740
agaggatgct gtcaggcaga ggctctagca tctggctttt attggttgcc tttcttaaac    4800
ccagcatttt ttaaaaagtc acctgaggtg gtagtttagt cagggctgga gaaaggggta    4860
ggccagtggt cagtcgggag gagggtaccg gtgtggcatg atgggtgctt cacatgtagt    4920
accaggccaa gagtccagca gctagggcca caccagcggc caggatgaac tggaggctgg    4980
gcttcctcag cacagccata gctgttcgga agggacagct gctgccctcc agggcacctg    5040
tgtggcagca ccaataggag acatggcatc agtggagtct cctgctacac ctgccccagg    5100
aggggagctc aggacacaca gacctacctt tgtcttgttc agcagcgtag aaagggcatt    5160
tacgcatgtc tcctttccca tcgtgtacag ggaacccatc ctccaaggtc tctctggcca    5220
gtgtggagcc ggcctggtcc agttcattga atatctgcag gagcagagga tcgactgagc    5280
catctttggg ctgcccatac tttttttttt tttttaaatg tcttttgaga tgaggtctct    5340
gttgcccagg ctagagtgca gtgttatgaa catggctaac tcactgcagc ctcaaactcc    5400
taggctcaag tggtcctccc accttatcct cctacgtgtg tgtaccacca tacctggcta    5460
attttttaaat tttgtgggga gatggtgtct caccttggtt gcccaggctg gtcttcaact    5520
cctggggtca agtaatgccc ctgcctcagc ctcccaaagt gctgggatta caggcatgag    5580
ctactgcgcc tggctacact ctcctttag aggacgccct ccagagagag tgagctggag    5640
caggtgagct tgctcaggtg tgccaactac acagcaagca gcactggtgg gcggcagctg    5700
cactgcctga tggtcttccc tccctagcaa gagctctggg gaggtgtgga tattggtacc    5760
ccaagaaggc tgccaaatgc tgggtctccc ctgggaactg accagagatg tagccttctc    5820
tgaggtggct caagccactg aaactaccac agcacagaca ggagggcatg agtacatccc    5880
catttctagg tgctggttat ttttttatca agaagcaaca gaaaacctgg aacatgggag    5940
aatgagactg tggcagggca tactcatcct gagtgccctg ggaggcctca gtggaagctg    6000
acaggacctg gggacagagt aagcttcccc aggttcagcc tcatctaaag gctacttgta    6060
aacagagctt atttactctc cttggtggca ctggctctct attaacttat aaagcagggc    6120
ttctcagagc aaaacttgaa aagaaaatta accattcttc aagaccagca tcctgcaatg    6180
agggaggaag ccagctccat tcttccagac ccctctatgt gcgagaggac tcacccttcc    6240
caaaacacta cccactggca tctatcacac caggcctcca tgctgggaac cacccactgg    6300
gcccacaagc tctggtggcc aatctggtgg ccaccttcct ctcggcaccc tgcagctcat    6360
ctgtcctaat gccatgtgtg ccttcatggg ccactatgga tctgctacca ctgtcaaagt    6420
ttccctcttc agccctagca gctggcagcc cccaatagta cctgcatgtt atactcaaaa    6480
gccttgttgg cctcctccac gatcctctct ttggtcttca tgttcaggtc cagggcgttc    6540
atcctggccc ggtagagctg cttgaactgc tgggcattgt ccacattctc aaacaggtag    6600
aactgggtcc cttcccctgt gctggggagt ttcagtgctc gctgggccac cttcttcagc    6660
acctggcccc ccgagagatc ccccatgtag cgggtgtatg catgggccac cagtagctcc    6720
ggctcgttct gccctatgta gtggatccgc tccacgtact tctgggcagc cttggggcac    6780
tgcacctgct cctcccagtt ttcaccaaag aaatactcca tgtccttggt cagcgcctcc    6840
ttccggtgca gctccatggg gaagtacaaa ggggcaaagg ctggatggtc cttgttgcgc    6900
tccatttcct cctcgagggc tgagtatgtg aagtaaagtg ccgtggtggc cagctgtgga    6960
ggtgacagga ggaggccagc tatgcctgag cacaccacat ccgagcagct ggatgcagag    7020
gctcaagtga caaccccaa ccccaaagac ccaatcctat ggtccatttt tatgtagtga    7080
attatttaac acacaaggaa gcttttgttt cttaaaggaa tggcatggtg aagtctttgg    7140
aacacgcata cttttgcttc cttcacacca ctatgttatt ctatctaagc catgagaacc    7200
aattttttttt tttttttggcg gggtaaagag tctcgctctg tcacccaggc tggagtacag    7260
tgggacgatc tcggctcact gtaacctccg cctcccaggt tcaagtgact ctcccacctc    7320
agcctcccaa gtagctggga gtacaggcac gcgccaccac acccggctaa ttttttgtatt    7380
cttagtagag acagggtttc accatgttgg ccaggctggt ctcaaactcc tggcctcaag    7440
tgatccacct gcctcggcct cccaaagtgc tgggattaca gacatgagcc actgtaccca    7500
gccgagagcc agagcttaac gtcaagaagg aatggagtgt ggagaaaagc ccagcttttc    7560
cctcagagtg gctccagggg cacttttctc atgggaccaa ggcccccacc ccaaccccat    7620
atgacagtct ggaacccaat gcggggcaca aaccttaaac agctccttct taatgttgcc    7680
tttcaagaag tccttgacaa actgggtgtt ttctgcccgg tcgtgtgctt ccttggtccc    7740
ttccttcagg agctccgaga ggtcagccat tctgtggaga gatgggaggt gtttgtgtgt    7800
caattagccc ttcccagctt tccagaaagg accatagaga gaagattgag tccacacccc    7860
aaggtgacca cctgttgtac tggaggctgg ggcttctcag acacttcact ccaacacaaa    7920
tagcagcaac ttgtcaggga acacaggaca agcagacatg acattctgct ccaaggactc    7980
aggacacaag ggataactgt ggcctgctcc ttgagagtag tacccacgtc catgtgtctg    8040
tgttgggaac cacccaaatg agcaatgctt tgcttctgtg gccacctagt ggtcgaagag    8100
acacacatct gtattccctt cagtatttgc tggcttctct aagaacagcc tgccttggaa    8160
cgtgtcttct ggaattcaca cacctcagta aggctgtgac catgggtctc ctcagatggc    8220
```

2833

```
cctactgcct  tcctcccacc  ttggacccac  agcttctttg  agactatatg  tgactaggac   8280
caagcacgga  aggatgcaaa  ggagacaacc  gagaggctag  ggccaggacg  ctgggtttgt   8340
gctgcttaac  gaaattacac  agttgtaaag  gtgtgtggat  ggatggacaa  ggtagaaaac   8400
atgtgatcct  aaagatggtg  gtacttgggc  aggggcttac  atgtgtccac  acaatccatc   8460
tacaagagtg  agaaaaattt  ggccttatca  tggtctggct  tctgctgtct  tctttaggag   8520
attagctcgt  tatcatccat  gtgctgagaa  tcaatttatt  attagcaatt  atttcaaggg   8580
ataaaaaaaa  aacttggcca  atgacagggc  tatgagaggc  taatgatgca  gaacagggcc   8640
tggaagctca  ggtttagcat  gagctgtccc  tatacagagt  aaggaaaggc  tgccctgcag   8700
tcttttatgt  ggtaaaagac  tgaacagagc  cagctttgcc  tgcgtttacc  ctttctcagc   8760
ccagatgagg  aaacgcacaa  gtttttaaaa  agaaaaaagg  ataactacca  tcaaatccta   8820
tcagcactcc  caggagcacc  tgccctgcct  ccttggatga  dacaatggac  cagtggggag   8880
agttctaagc  agccgaagct  gtatgcggtc  cctgcagggc  caagcaggca  cccaggggtc   8940
cagagctcat  ggcccatggc  cactccccag  tgctgccaac  agacaaaacc  aggtgtgctg   9000
agcacgacag  gtgctgggcc  cacctgattc  agtgcagcca  gcccccatcg  ctcacctcat   9060
ttggttctcc  ttttctaggg  ccccagagtt  cttttttttct dactcgtcta  cccctctga   9120
ggtttccact  tccgctgaca  ttgctgctgg  gtgtggttct  tgctgctctc  gctcctctgg   9180
tcctgcagag  acacaaggag  ctggtgatgt  ggcacccacg  gcagtcactt  ccccaaatac   9240
ctgtcggttc  tgctttcctc  agagcgaatg  taaccaaggt  gacacccaca  caccccagga   9300
ttgttttctt  taaaataaag  c                                               9321


<210> 5895
<211> 1236
<212> DNA
<213> Homo sapiens

<400> 5895
taaaaataag  ttttattgac  ataatttacg  taccattcaa  ttcacccatt  taaagtgtac     60
aattcagtgg  tttttagtta  ttcacagaat  cgttcaactg  ttgctacaat  cggtttcaga    120
gcatcttcgt  tacccccagaa ggagattcca  tgttccccat  ttcccctctc  ccccagacct    180
aaacagctac  taatgtactt  tccgtttcta  tgggtttgcc  tattggggac  atttcatata    240
agtgaaatca  tacagtatgt  ggccttttgt  gtctggcttc  tctcaccaag  catgttttca    300
gagttcatgc  tgtagggtgt  cagtgcttcc  ttccttttta  tagccgaatc  gtcttccatt    360
gtctgggcag  cctacggttt  tgtttatcca  ctttgttgat  ggacatttgg  gttgtttcca    420
cttttttggct attatgattc  atgctgctgt  gaacatttgt  gtacaaattt  ctgtgtagac    480
aggttttcat  ttcttttggg  cagataacta  ggggtggaat  tgctgggtca  tctggtaact    540
ctaggtttaa  ccttttgagg  aactgccaga  ctgttcctca  aaaggggaac  aggggctggc    600
agttcttcaa  aaggtttgca  ggggctgtcc  cctaccagca  gtgtatgagg  gttccagttt    660
ttctacataa  tgcctattac  tgtctttta  aattttagcc  atcctagtag  ataggaaatg    720
gtctccttgt  ggttttggtt  ttcatttccc  ttatgaaaag  acgctcagta  gtttttcatg    780
tgcttttggc  catttgtctt  ttgagaagtc  tttgttcaaa  tccttttaaa  aattgggttg    840
tctttctgtt  attgagttga  gttctttgta  tttcttaata  caagtccttt  atcagatcta    900
tgaattataa  aatgtgatgg  tatcctttga  agcacaagag  tttttcattc  tgatgacatc    960
cactttaagt  tttctttctt  ttgttgcttt  gcttttggtg  tcatatctaa  gaaaccactg   1020
cctaatcgaa  ggtcataaag  attgatgcct  gcatttcttt  ctaacagctt  tttgatctct   1080
ttcagttttc  aaacttccat  ggtactttat  agttgaaccc  aagagcttgg  acttggttcc   1140
tctggccctg  cccctgattt  gttaaacttt  atattcaaac  ttatgtgccc  tccatcccct   1200
gcaggtgctg  ggctgtctgg  gaaacactcc  tttccc                              1236


<210> 5896
<211> 771
<212> DNA
<213> Homo sapiens

<400> 5896
tgctaatcac  cctatggaaa  gaataataaa  gcatggaatg  aacaagcaaa  tagcaagagc     60
tcttcaaaga  aagttgtcat  taacacttta  cagagaatag  aggtaggctc  ccccaggaaa    120
agtttgcata  aatagccctg  gagcagctga  gaaagaggaa  atgaatgaca  ttcaattaac    180
tcctaatttg  ctgttgcagt  ttctcctgaa  ctgagttcac  tccagaattt  accaagggat    240
caggctgctt  aagaactaat  tacaatgaat  tctccatgag  cctgctgaca  gtctgtcctt    300
```

```
tctatgtaag tcctggggtt gttgccagcc aaaaaacctt aggcaaagtt gtcttctttt   360
agtaaaggtt ttccagcctc cctttaattt ttaccaagaa aagcacagca tatcaaggcg   420
ttagacagct ttattatttc tcttaatgtc aagttatcaa accccttaga agcctggaga   480
gagaggcagg tcatggtggc tcacacctgc aatcccagca ttttgggagg cctaaatggg   540
cagatgactc gaggccagga gttcaagacc agcctggcca acatgttgaa accctgtctc   600
tactaaacat acaaaaatta gctgggcctg gtggcgcatg cccataatcc cagctactca   660
ggaggctgag gcaggagaat cacttgaacc tgagaggtgg aggttgagtg agccgagttc   720
atgcagcctg ggtgacagaa taaggctcca tctcaaaaaa taataataaa a            771
```

<210> 5897
<211> 771
<212> DNA
<213> Homo sapiens

<400> 5897
```
tgctaatcac cctatggaaa gaataataaa gcatggaatg aacaagcaaa tagcaagagc    60
tcttcaaaga aagttgtcat taacacttta cagagaatag aggtaggctc ccccaggaaa   120
agtttgcata aatagccctg gagcagctga gaaagaggaa atgaatgaca ttcaattaac   180
tcctaatttg ctgttgcagt ttctcctgaa ctgagttcac tccagaattt accaagggat   240
caggctgctt aagaactaat tacaatgaat tctccatgag cctgctgaca gtctgtcctt   300
tctatgtaag tcctggggtt gttgccagcc aaaaaacctt aggcaaagtt gtcttcggag   360
agtatagggg gtccagcctc cctttaattg tatccaagaa aagcacagca tatcaaggcg   420
ttagacagct ttattatttc tcttaatgtc aagttatcaa accccttaga agcctggaga   480
gagaggcagg tcatggtggc tcacacctgc aatcccagca ttttgggagg cctaaatggg   540
cagatgactc gaggccagga gttcaagacc agcctggcca acatgttgaa accctgtctc   600
tactaaacat acaaaaatta gctgggcctg gtggcgcatg cccataatcc cagctactca   660
ggaggctgag gcaggagaat cacttgaacc tgagaggtgg aggttgagtg agccgagttc   720
atgcagcctg ggtgacagaa taaggctcca tctcaaaaaa taataataaa a            771
```

<210> 5898
<211> 771
<212> DNA
<213> Homo sapiens

<400> 5898
```
tgctaatcac cctatggaaa gaataataaa gcatggaatg aacaagcaaa tagcaagagc    60
tcttcaaaga aagttgtcat taacacttta cagagaatag aggtaggctc ccccaggaaa   120
agtttgcata aatagccctg gagcagctga gaaagaggaa atgaatgaca ttcaattaac   180
tcctaatttg ctgttgcagt ttctcctgaa ctgagttcac tccagaattt accaagggat   240
caggctgctt aagaactaat tacaatgaat tctccatgag cctgctgaca gtctgtcctt   300
tctatgtaag tcctggggtt gttgccagcc aaaaaacctt aggcaaagtt gtcttctttt   360
agtaaaggtt ttccagcctc cctttaattt ttaccaagaa aagcacagca tatcaaggcg   420
ttagacagct ttattatttc tcttaatgtc aagttatcaa accccttaga agcctggaga   480
gagaggcagg tcatggtggc tcacacctgc aatcccagca ttttgggagg cctaaatggg   540
cagatgactc gaggccagga gttcaagacc agcctggcca acatgttgaa accctgtctc   600
tactaaacat acaaaaatta gctgggcctg gtggcgcatg cccataatcc cagctactca   660
ggaggctgag gcaggagaat cacttgaacc tgagaggtgg aggttgagtg agccgagttc   720
atgcagcctg ggtgacagaa taaggctcca tctcaaaaaa taataataaa a            771
```

<210> 5899
<211> 1489
<212> DNA
<213> Homo sapiens

<400> 5899
```
gaacataatt taagtatata gttcagtgaa ttttggtaaa tgtatatacc atgtgatgac    60
tacaccaata aaaatagtgt gtgtccatca ccccagaaag ttcccttgtg cataccccac   120
ttgtagtcaa ttttcctatt cctgccccct gctgtaggca actaatgaaa tgcttttttat   180
```

```
cactatagat taattttgct gcttcttgaa ctgtatatgt atagaatttt acagtatgta      240
ctcttgtgtc tgatgacttt tgcccagttt aatgttttga gatgcatgca tatatcagtt      300
ttacttttt taattgctga ttattattat gtgtgaatat acaagtttat ccattcacct      360
attgatgaat attggagttg cttccagttt taggctactg tgaaaaagct gctctgaaca      420
ttcatgtgca agtgtttttg tggatatgtt ttattctctt gggtaaatat ctaggaatag      480
aattttgggt catatggtaa gtatgtgttt ataagaaact gatgttattt tttaaattgg      540
ctatataatt tttcagttgg ctttatattt ctactaggag tgttccagag gctcctcatc      600
cttgccaacg cttggtattt tcagtctttt tagccattct actggagcag tagtattta      660
ttgtggtttt aattagcact tccctgataa ctaataatat tgacccattt cccatgtttc      720
ttttattat atgctttatt ttgtgaaatg tgtctatgag ttttttatat attctaggta      780
caggtacttt acaaatattt cccatttctt aataatgata ccttggaaga tcagatggtt      840
ttaatttta ggaagtctga tgtatacatt tttctaggtc actaattttg tgccctatga      900
aaactttatg taccccatag tcaagtacat tttttcctat gatttttaa attttataat      960
tttagccaaa tagttatagt ttttatgttt aggtctgtga ttcattttga gttaaatttt     1020
atggtttaag gtagaggttt gaggttcatg ttttttttcct ccgttttagt tgttctgtag     1080
cagcatttat tgcaaagata ttctttctca atggaattat actggcaata ttgaaaatct     1140
gttatctgga ctctattctg ttccattgat ctatatgcat tttctttgta tcattaccac     1200
cttgtcttga ctactttagc tttgtagtaa ttctcaaaat caggtagtga gtccttcagc     1260
tttgttcttt ttcaaaattg ttttggctta tatctttctt atataaattt tagaatcaga     1320
tcatcagttt ctgcaaactg agattgtgtt gaatctgtag atcaattttg tgtcttaaca     1380
tcccccagca aagttagaaa gccaggcagt aatatcagag ggcacaagcc cagattgaag     1440
ctggaagaca tagtgctcca gaaaggtcct tccaaaaaaa agaaaagaa                   1489


<210> 5900
<211> 151
<212> DNA
<213> Homo sapiens


<400> 5900
cccaaagatg aggcagcccc caggttagtt tatttcatca gttcagggat ctagtttctt       60
tctgttctgt tccgttctat gttggctgcc atcttggttg caaggagatc caggcaacac      120
atcttcagac aagatcctag gctagaagat g                                      151


<210> 5901
<211> 1130
<212> DNA
<213> Homo sapiens


<400> 5901
tgagcactgt gccttgtgtc agtagtcagt ggtgttcctt tagtccttgt tatgttaata       60
aaaaagcttt ggttttttgca agactttgtt tttagagatt ctggaaagga acatattaac      120
caaaaagaag agctgacttc aattttactt gtcttgaaaa taactgacta ctaaagggat      180
gtcagggaac attagtgaaa atggagaact taaggagtta aagttttagc tgttttttc       240
aaaggatatt gtccttcaaa atctttacct tgcattttg ttactgtgat ttaagatggt      300
tgtaattatc attgattgat gatacctatc aaaaggcaac cctaaccaac catttctgct      360
ggattctgaa tgccgagaaa gaaaaactga gaaatttgtg aactattaca agtcgtctgt      420
aaaatgagat aataatatca acttcacaag gtaatttagg ctttcgtgaa aactagagtg      480
tgaaaatgct tagtaatgtg ctgggcacac tgcaggtgct ctacaaataa ctactgataa      540
ctactttttt tcatgagtaa ttgtacattt tctttcttcc ttcctttctt ccttccttcc      600
ttccttcctt ccttccttcc ttcctttctt ttctttcttt ttctttcttt tctttctttt      660
ctttcttttt ttgtttttctt ttgttttgag acaagatctt gctctgttgc ccaagctgga      720
gtgaagtggt gtgatcttgg atcactgcaa cctctgcctc ttgggctcaa gtgatcctcc      780
ctccttatcc tcctgagtag ctgggacaac aggcgcacat cgtcacaccc agctaatttt      840
tgtatttttg tagagatggg gcttcacttg gtgttgaatt cctgggctca agcgatccac      900
ccacttcgac ctcccagcgt gctgtgatta caagagtaat tgtaaattta aaatgaattt      960
ctttcccatc ccaaaccagt atcaaaatgc aaatatagta aattactttt taaaagagag     1020
atgtttaatg gcagttgttg gtagtctttt gagtctttaa gtgggtatat tatagaaaaa     1080
caacatatct ctgcttggag ggaagattta actaaaaaca agaaaagaa                  1130


                              2836
```

<210> 5902
<211> 1111
<212> DNA
<213> Homo sapiens

<400> 5902
```
cagtagtcag tggtgttcct ttagtccttg ttatgttaat aaaaaagctt tggttttttgc    60
aagactttgt ttttagagat tctggaaagg aacatattaa ccaaaaagaa gagctgactt   120
caattttact tgtcttgaaa ataactgact actaaaggga tgtcagggaa cattagtgaa   180
aatggagaac ttaaggagtt aaagttttag ctgttttttt caaaggatat tgtccttcaa   240
aatctttacc ttgcattttt gttactgtga tttaagatgg ttgtaattat cattgattga   300
tgatacctat caaaaggcaa ccctaaccaa ccatttctgc tggattctga atgccgagaa   360
agaaaaactg agaaatttgt gaactattac aagtcgtctg taaaatgaga taataatatc   420
aacttcacaa ggtaatttag gctttcgtga aaactagagt gtgaaaatgc ttagtaatgt   480
gctgggcaca ctgcaggtgc tctacaaata actactgata actacttttt ttcatgagta   540
attgtacatt ttctttcttc cttcctttct tccttccttc cttacttcct tccttacttg   600
cttgctttct tttctttgct tttctttct ttctttct ttctttt tttgttttct   660
tttgttttga dacaagatct tgctctgttg cccaagctgg agtgaagtgg tgtgatcttg   720
gatcactgca acctctgcct cttgggctca agtgatcctc cctccttatc ctcctgagta   780
gctgggacaa caggcgcaca tcgtcacacc cagctaattt ttgtatttt gtagagatgg   840
ggcttcactt ggtgttgaat tcctgggctc aagcgatcca cccacttcga cctcccagcg   900
tgctgtgatt acaagagtaa ttgtaaattt aaaatgaatt ctttcccat cccaaaccag   960
tatcaaaatg caaatatagt aaattacttt ttaaaagaga gatgtttaat ggcagttgtt  1020
ggtagtcttt tgagtcttta agtgggtata ttatagaaaa acaacatatc tctgcttgga  1080
gggaagattt aactaaaaac aagaaaaaga a                                  1111
```

<210> 5903
<211> 541
<212> DNA
<213> Homo sapiens

<400> 5903
```
ttacatgtta tcaataaaag tagcatttta acaattatcc tttccacatt atttgataaa    60
tgctattggt tttgtctgtt attttatta atatataatt tgctttaatt acttaaatgt   120
tccttgagcc ttagaactta aatcctgatg agggttttac tttttaaaat actgaagttt   180
attatttatg catgttttac agaaaaatga gtggctttta aaagatcaaa attaaaggct   240
taaacatgga atctctagga catataaaat atgagtagaa ctgtgtattt ataagatgtt   300
aatgtaagac ttcaggcctt gtaatatctt aaaggaacca cttcactgta agggagcagt   360
ttgtctttct acctttccaa ttgtattgag attttgccca gtatgtcttt ttacttaaac   420
accttggtga aagctatcca gcatcctgtt ttaaatctcc tttgttgcac ttaccataat   480
tactttcaga tctgtttcca ttctcagaaa ctgaaactgt aagctcatgt gagtggggaa   540
t                                                                   541
```

<210> 5904
<211> 6511
<212> DNA
<213> Homo sapiens

<400> 5904
```
cccgaacccc cgggcctggg gagctggagg aggtgccaag cgggcggacc accgaggagg    60
acctgggagg ggaagtgtta gggtaaacgt tgggatcggg tttgtagtta cctataaagt   120
gattttagaa acacctgcgt ggtggcagtt gttgacgttc ttgttcatct tttcagtcac   180
cctccttccg tcccccattt tttccttcca tttgttttc gtgtttaca gtaaaggcat   240
gacttcctgg caccacaggg aaaatcgggt gcaagcccag aaactatttc cccaccacca   300
cttgttgaaa aactgatttg aaggcatctc cggggttgaa caaacggaaa gtgccaggat   360
ttgatgcgtc tctggtttcg ctctggagac cattccctgc taagtatcaa gacgaaaaaa   420
actggaaact aatccggtaa acatttaaac ttgaaaactt atgatgagtt ttcttttgat   480
ctagcaaacg atatgctttt tctctttgt ggctaattc ctgcactttt taatttcttc   540
```

```
atttgttgaa aatgttttct tctattgaaa acacttttgt tcttcgggta tgtaaactcg    600
agcatcctct actgggtgga aatttgcctc tgcagtaaca caaacagact tcttgaaatt    660
acgaaaacat tggaaagtat aggcctttca cattagcaca aatgattgag cattttatgc    720
tataaagaat tacatgctta ttgttttttga aatccaaata tttaaagata caagactttt    780
tacatagaaa gtaagactta acgcattacg gggcacaaat atttaatatc taccacaact    840
aggttagaac cattaaccat atttggtata gttacctcat atttaccaca actaggttat    900
atttggtata tttaccacaa ctaggttaga accattaatc ataattggta ctgatttgtg    960
agggagtgta aaacacatac catttactta aagtataaac gtgtaatggt aagtactaga   1020
taggaatcat aactgtcttc tctgccgttg caaacctgta gcctaacaca atatttggca   1080
aatgagagct gtgcacttaa aaaaaaaaa aaagtggaaa aaataaaatt tattaaaacc   1140
tagactttat cgtacttttc agaatttctg tggaatgttt aatcttctgg atccatgact   1200
gtctgatacg ttggcaattt aaagtccttt tgaaagagag ttcatgttac ccagctattc   1260
tctagtatgt attcatggaa tactccatcg tttctgatta cacttatgag acataattct   1320
tcagagcaca cttagaatta tttctctaac atatttatgc agacagaatt ccatcttgaa   1380
ttttatcaaa ttcactttaa cttcttaagt cttggttatt gtaagagccc aaaggtatgg   1440
ccccagggaa caattaagac ttgatgattt gtcacctacc aaaatatgtt cattatgtaa   1500
aggtttcaat gcccataagg ctgtcatttg gtatttagtg cagtgctcat aaaagtgtgt   1560
tattaggata aattgagaaa ttaattaagc tgcttctaga ttaaataaat ataaatattt   1620
ggacaaatat tgaagatacg tacttttttcc atcaaatttt aattgaggtt ctgctgtata   1680
ctagactcta tgttcttgat tttgttctta ctagttaagt gaagtaagta ttaacaaatg   1740
taattattaa ttttaatggg aaaaggaaac aagtattaga gaagtaagac tttgcatatc   1800
ttaacacctt ttggaaaacg gaggtataca tgcattacaa aataactttg aactgtatat   1860
tttggcttta caatttaatg tcattgttgc ttttagttgt atttggtctg gttttttttt   1920
gtggttttc ctcagaacaa ttttggaaac tatattcatc ttcatataga attatggcag   1980
tttataggcc cacctgtttg aaaaaacttt atccacagtt gtgttcctaa aatcagttgt   2040
cccagaattg tgacaggaaa gaagctcttt tgaacttgaa tgcatatcta agttagatga   2100
gattaataca atttatatcc tgaatgtaat ttatatccta aatgttgaac tgtgattagg   2160
tttccctaaa taatggtgac atctgggata gtttgagttc tttctttata gtctaattta   2220
cttgaatttc gtaaaaatca aggaatggac ctgattgcga ctggttagta acttgttcta   2280
gttttgcctt cccttatata tttcaggtaa gttaagatta atagacacac agtctactaa   2340
tttgaattaa gttttttgaa gtatttgaag tgtttatata ctgcctttta ttgttcatta   2400
cttccagaat gaactgttgt tataatactc atctttgttt cttttgtctt gaaagaacca   2460
tatttatttta gagtcagaat ggagcgattt gtagtaacag caccacctgc tcgaaaccgt   2520
tctaagactg ctttgtatgt gactcccctg gatcgagtca ctgagtttgg aggtgagctg   2580
catgaagatg gaggaaaact cttctgcact tcttgcaatg tggttctgaa tcatgttcgc   2640
aagtctgcca ttagtgacca cctcaagtca aagactcata ccaagaggaa ggcagaattt   2700
gaagagcaga atgtgagaaa gaagcagagg cccctaactg catctcttca gtgcaacagt   2760
actcgcaaa cagagaaagt cagtgttatc caggactttg tgaaaatgtg cctggaagcc   2820
aacatcccac ttgagaaggc tgatcaccca gcagtccgtg ctttcctatc tcgccatgtg   2880
aagaatggag gctccatacc taagtcagac cagctacgga gggcatatct tcctgatgga   2940
tatgagaatg agaatcaact cctcaactca caagattgtt gactaggagg ttaccaccat   3000
tgtgatcaag ataaatgtgg agtattaaag ttatgtgttg attgtgtggt tcatttttgt   3060
atttatttca tttaaaatca tgtgacgcag aatagttttg caatgtgtat atagttgcag   3120
gcaaaaaaaa aaccacctca ctgcaaaact tattgttaat tttagtcacc aatggtataa   3180
agcaaaacct aggtttagag tgtgctagga tacctgaaac ctgatggtta tctttaaaat   3240
taatggtttt tctcctgaaa tgtttgtgca tggaagaact gccctgcttt tttaccctgt   3300
tgccatgtat gattattcct tgtgagatta cttaattact tggattgaag actagcctat   3360
tgaagctgct gccaggcaac accacttaac agtaacttaa aggaattatt ttctttagag   3420
gatcctcttc aaaaaggaag ggagatagtg gaaaactgtt cttatatctt cagatcccta   3480
gcagaaatga ctgtttatttt caaactatgt tttacttgta tatgatgtag tcaccttaac   3540
tatctttcaa ttccatactt cccccgcccc cattttaaag gcttattgtt gtattttgta   3600
gcagcttcaa gtgaccaaaa gactaaaatc tttcaacgtc aatgccaaaa gccaagggga   3660
attttgcagt gacaggattt tagtctctta ctatgaatac taatttcgaa ccatagcttt   3720
cattttaagc atcatcttga atttctaaac ttttttctat gtcttggtgt taaaagattt   3780
caagattggc attttttactt aaacagacat tttatggttg agttttctct ttattataga   3840
gaattagtaa tttttttttg gctgacagat cagataaaat tactttctat tcattaattt   3900
ttctctacaa ctttatgagt ttatttaggt gaatagtcta gactagaaac aagtttactt   3960
tatctgcttt gcctctggtg gtacaaggtt tttaacatgg atggtaaaca attgtctaga   4020
aattctggca ggttttttgt attggagatc tggcagtatc ctgcataact ttgggtgagg   4080
aaattgttct cttaaagatc agccatgttc aggaaatgat ctctgtttga acctcactat   4140
cctgtaaggt tatccaagta gcttagccca gctaagttct atcagagacc caaattatat   4200
```

2838

```
tttttaaaaa tttaacagct ggaaacttgg actagagctt taataaaaaa tcttaaattc    4260
tttgaaattc aagttaaaaa tacttatata tttctattac aaagcagtga caaatgatgc    4320
cctgtgtgac ttggagttat ctttgacttt taccacaaat cttcatttat aaaagaaaaa    4380
gccaaagtga aaaaaagtta gattgtgtat ttttcagtaa cagctttcca tgtcttaaga    4440
ttttttttaca gacttaagtt tctaattcag gttgtcaaac tggccatttg acttcagaga    4500
tttgttttca ttaaaaaata agcctgccgc caaaataaat cacttatcaa aatgtgaact    4560
gttttcctca tgttcagtta tgttaaagta gtatgataaa tgcatgccta gagtagtgct    4620
ctcgttgatg aagcacatgt atgaggagac cagcagcaaa acataaccat atgtgttttg    4680
cgtttacttc ctctagaaaa gaatttgcag gcaaccatgt ttaatttgaa ctatctaaga    4740
tggtagattt tagaagctag gaataattga gttttatagc actattttca gaatacgaaa    4800
agatacacaa tcattctgtt ttttgaaatt ccatgtgatt caaactgctc cctattattt    4860
gggtattaat ttgcactaat agcaaaatgt aatggcagat cagctttgag agtggtccta    4920
agcagtaaac tggatgatgt tgcattagaa aaacatcaat aattcatatt taagtttttag    4980
tagttactac tgatttgata atcacttaaa ttttatatat cttaatgtat tttttcagac    5040
tcctaattaa ttcccacatt cactgtaact aggggcatag tccattctgt taggattata    5100
tcctctcctt agaaatgttt tccatcctgt tgtggggatt tggtattaat gtttcttcat    5160
tgattatgga acttttgttc cctgaagcta gttaactgtg tctaaagtta aataaataca    5220
gcagaatgat tgtttagcc tgctcgaact gatacaaatc cctgaaacca tgattggcat    5280
atgttagata acaaatgagg atgtctaaga ggcatatgct gctttggagg tgtagtgaac    5340
gtgtgtacag aagttttcaa tcttaactat atagtgttag tgtgatgcta tactattgga    5400
aaaatagcag ctttttttcta tttttataagt tgtatgcata aacataagat ttgtaatgtt    5460
tcatttataa actgccttct tcaacacatg ttaatagtgt tttctcaaag tattgatagt    5520
atgtcttcca gaatttcaca atatgcttac agtaaatatt tcctagcttg ttgaaatgtt    5580
caattctttg ttggctttct tcttgattct gtgggggtgt ataacaagcc tgaaggacat    5640
tgtaatcatt tcttacaagg tgaaaattaa gaaagattgt gtatgagagc ctatatagtt    5700
gttttatcca ttatcatctt tgattaagac tttaaaaaaa tgctatttcc agttaatgca    5760
tttggcccta ttgaattttc agggaccaga aaacattaaa aagttctgca tcttataatg    5820
gtaaccaatt aagcttgaga ttgttctgaa agtatcaatt gctttaaaac tgttgtaagt    5880
acagttggca agatctccaa gctgaaactt ccacgttaaa acttttgcct gtaagaattt    5940
gcacatgaat gttaatggaa aacacaaaac taaagatggc ccaaaacaaa agccacaaac    6000
agttcatcat ttggtgctta gtctttgtaa gggctctctg tggtttgact taccccagct    6060
accgttaaat gaggacaaat caccttaaaa catgttcatt tgattcataa caaggaaaat    6120
tgggtctatg attttttgcc aatcttagcc taaaagaaat tgctttagct tctggtcagc    6180
actgattaaa atgtgaatag tgaagtggct atcctaaact ggtttatctc cacccacact    6240
atcatagatt tcttaggtaa atacaattct tatctagtgg tattctactt gtattcagaa    6300
tactgtatta aaatttt act atttcatttt tgtattctgt gcttatttt tttgctcacg    6360
catgtatgct tagtataaat gtgtcacttc taaagttttg tctctgactt ttagaaataa    6420
atttcagaaa aattgtttca aaagatttg aaagcacatt ttgtttgtg agtcaatgac    6480
aaatatattt cctgattaca aaacagcaga a                                   6511


<210> 5905
<211> 7424
<212> DNA
<213> Homo sapiens

<400> 5905
aaaaaatatc caaagtaggg ttagtacagg aaatttgggc cattcacgag taactccata      60
ttgagtgtgt gccaggcaca gtcctaggca gtggggtcca ggggacctcg ctctcattga     120
agcgaggctg gggaggggct ggagctggga gtcacggaga gatcagggac cagcgcgtca     180
tgcatgggaa gagggaagaa aaggagctgg gaggtccctt taaaaggctg ggcctggtgg     240
acggaacttc ggtgcgacgc taaagtgtgc gcccgggagg atgagtacgc tacacccgga     300
agtgtcttca gggagaggaa gccggcggcc tcactgctat gggccgcaac aagaagaaga     360
agcgagatgg tgacgaccgg cggccgaggc tcgagctgtt cttcgcggcc aaggccaggt     420
ggtgagtggc aaagccggac cggactcccc tcgagctgtt cttcgcggcc aaggccaggt     480
ctggggccga gcacgctccc gccggggggct cttccggtcc cgcccc ctgg cgtggctaga     540
gaacccctct cggccttcca gcccgcgttc ccgcttgcgcc cttctcggcc gccaccttct     600
cccttcttga cctcccacc tcgcctagtg tctgtgcagc gccagatagc cggaagctcg     660
ggtctcagag cagtggcttc gaccacccta gcccagccca gtccatcggt ccggcacaca     720
gcaggcgccc agccgtggtt gataaatgat gagccaatga aatgagagtg gcttaagttc     780
attcattcgc tccctagaca tttattgggc tcctttggtg tgccaggtcc cgtatcagga     840
```

```
agcagaacct ctgagcctca gcgtctggcc agataaataa atggcacatg gtagcgggtc      900
agcgaaaagc ccagtgctgg accgtgggac aaaatgggaa cagagcagct agcactgtgg      960
agatgagaag gggctgagat tagaccgagg gaaggaggta gggaaatgct gggcatcatc     1020
aggaaactcc tagcgtgcat caacaggccc tacaggcgag tttagggtca ggtgtcctgg     1080
ggacatgggt gttggtccag tgcagggttt ccgaaggtct ggatggtggt ggccctgaaa     1140
accctgttga gagagtaatg aggtttgtag gtgtggaagg ggttacctca tgtactgtgt     1200
gtggcccccc cccccacccg ccccacagcc tggccctgtt gcctgaacct gagatccctg     1260
gagagtattg agtggaaaga ggcagtatct cccttatttt cctaaatgta tcctttctct     1320
aaccttgggc aagtaaccta gactctgtga ctcaacgttc ccatctgtaa aatggagatt     1380
gatacccacc gcacaggtta ttgtgagggt tttttgtttg tttttgagat ggagtctgtg     1440
tcgtccaggc tggagtgcag tggcatgatc tcggctcact gcaacctccg cctcccaggt     1500
tcaagcaatt ctccccgctc agcctcccaa gtagctggga ctgcaggcat gcgccaccaa     1560
gcccagctaa ttttgtgtt tttagtagac acggagtttc accatgtttg ccaggctggt     1620
cttgaactcc tggcgtcatg tgatcttccc acctcgacct tccaaagtac tgggattaca     1680
ggcgtgagcc accatgcctg gccattgttg tgaaggttaa atgagctaat acttacactt     1740
ttttggaatg gtgcctagca catagtgagc gcggcattag ccattttct cctagagcga     1800
gcccttctct ccttgtataa tgactctcct gtctctgccg gcttccttcc tgtagggagt     1860
acctgacagg cttccacaag cggaaggtcg agcgaaagaa ggcagccatt gaggagatta     1920
agcagcggct gaaagaggag cagaggaagc ttcgggagga ggtacgcagg gggaaggtgg     1980
gaggggaggtc tttgattctt agggcacttg cagccttgga tttccctaat agaggcagct     2040
gctggcatgg ggcgatgtgt gtgtgggcag gactggggaa tagtttatac aggtggagac     2100
tctgtgggcc cgggtctggg agtgatggaa gatggagtct cctcctgatc ttgcagtatg     2160
gatcatggtc tccctcaccc tggggggtgat taataccca gcctgaggtt ggactgagag     2220
gccatactca ctgtgttccc tgcctgtgtg gtttcagcgc caccaggaat acttgaagat     2280
gctggcagag agagaagagg ctctgggtaa gtggcatgct tggcctgacc tggagaacag     2340
ctgatgggcc tggtttatac ccttggtggg tggaagggat agaagctgac ctccttggcc     2400
ctaggggatct tggggggtac cctggggcca ggggtggtcc taagcacctc taagtgcaag     2460
tggaacagag accaggagaa ggagtcccaa accccatggt taaccaagcc tgagaagaga     2520
gcccagtttt taaggatgga aaggactagg ggtggagggg agggacagca gtagctgtca     2580
cagagggttt gtctgacatg gggaccagct agagcatgaa ggaaacggga tcattcacaa     2640
cattcatcca cagaccaggc tctacagcca gtgaccttgt ggatgcgctc cacgtccaca     2700
gagtagaggg ggcactgcac tccagggcgg gagggaggct ggagcctggt cactcgttcc     2760
cgtgactgag accaggtctg tgtccacccc cacagaggag gcagatgagc tggaccggtt     2820
ggtgacagca aagacggagt cggtgcagta tgaccacccc aaccacacag tcaccgtgac     2880
caccatcagt gacctggacc tctcggggggc ccggctgctc gggctgaccc cacctgaggt     2940
gggtcccagt ctcagccctg ggaggaaggg gcgtgggggc agaccagctt gtcagggttg     3000
ctcagtgctg gcccatgtca tgggtatccc actgccagcc ctgggaagaa ggggcgtggg     3060
ggcagactgg cttgtcgggg ttgctcagtg ctggcccatg ttgtgggtac cccactgctg     3120
gggctccttc cctttggacc cttcattccc tgcttccggg gtgctgcaaa gaccagcccc     3180
actgctgagc ggctgaggag cttgggcagg ctccttcacc ttgcctgctt ccctttctcc     3240
atcagtgaac tggggggttgc tgatggtggc acctgccttg tgggattggt atgagggtga     3300
aagtggttaa tccatgtgag tcacctggca cagtgcccag ccctgtcata agtgcttcac     3360
aaaaggtagc cgtttgttgt gatcgttccc tttgtgcgat tcgcagccct ggcacgtctg     3420
tgtgcactaa gtgggtttttc aacctgtggg ttgtgaatca tgagtaggtt gcaatcagca     3480
taaaaaaaaa atataattga aaatatccga aagtgtcatg ttaaatattg tttcatgaga     3540
cagctgtttc cactggagtt gtatctgggt gtgcctaagg atttatggac atatatgcac     3600
acaattacga tataaaacac atttccttgt gtgggttact gtgttcttaa gtcctggagc     3660
cactcccta tcacatccat actgatctca gggccaggca tggtggctca cgcctgtaat     3720
cccggcattt tgggaggcca aggcgggcgt tatcacctgg ggtcaggagt ttgagaccag     3780
cctggccaac atggtgaaac cccgtctcta ttaaaagtaa aaaaattagc caggggggcca     3840
ggcgcagtgg ctcatgcctg taatcccagc actttgggag gccgaggcgg gcgaatcacc     3900
tgaggttggg agttcgagac cagactgacc aacgtggaga aaccctgtct ctactaaaaa     3960
tacaaaatta gctgggtgtg gtgggacatg cctgtaatcc cagctactcg ggaggctgaa     4020
gcaggagaat agcttgaacc tgggaggtgg aggttgtggt gagccgagat cgtgccattg     4080
cactccagcc tgggcaaaaa gagcaaaact ccgtctcaaa aaaaacttag ccaggcatgg     4140
tggcgtgcac ctgtaatccc agctactcgg gaggctgagg caggagaatt gcttgaactc     4200
aggaggcgca ggttgcagtg agccacgatt gtgccactgc actccagcct gggtgacaga     4260
gcgagactcc atctcaaaaa acaaaacaaa acaaaaccat actgatctca caccggtctt     4320
tcattttatg ctcactattc tgcaagttct gatacaaaga caagtcttgt ccccgtttttg     4380
ctaggatttt cattcctgaa tgtttaagta tgtcctggaa gcttctaggg gcaggaaagg     4440
gtttggaaac agaccttccc ctgtgtaatc cttgctttag ggcagataga cttcttccat     4500
```

                                  2840

```
aacaagagtg aaactccgtc tcaaaaaaaa aaa                              273


<210> 5907
<211> 302
<212> DNA
<213> Homo sapiens

<400> 5907
ccaggcgcag tggctcacac ctgtaatccc agcattttgg gaggccaagg cgggcagatc      60
acgaggtcag gagatcaaga ccgtcctggc taacacggtg aaaccccgtc tctactaaaa     120
atacaaaaaa ttagttgggc gtggtggcgg gcacctgtag tcccagctac ttgggaggct     180
gaggcaggag aatggcatga acccgggagg cggagcttgc agtgagcaga gatcgcgcca     240
ctgcactcca gcctgggcaa ctgagcgaga atctgtctca aaaaaaaaa aaaaaaaaaa     300
at                                                                   302


<210> 5908
<211> 283
<212> DNA
<213> Homo sapiens

<400> 5908
cgcctgtaat cccagcactt tggaaggccg aggcggccgg atcacgaggt caggagatca      60
agaccatcct ggctaacacg gtgaaacccc gtctctacta aaaatacaaa aaattagcca     120
ggcgtggtgg cgggggcctg tagtcccagc tactcgggag actgaggcag gagaatggcg     180
tgaacccggg aggtggagcc tgcagtgagc cgagatcgcg ccactgcact ccagcctggg     240
cgacagagcc agactccatc tcaaaaaaaa aaaaaaaaaa aaa                       283


<210> 5909
<211> 184
<212> DNA
<213> Homo sapiens

<400> 5909
cgtggtggcg ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg      60
aacctgggag gcggagcttg cagtgagccg agatcgcgcc actgcactcc agcctgggcg     120
acagagcgag agtccgtctc aaaaaaaaaa aaaaaaaga aagaaaaaa gaacaaacaa     180
cagc                                                                 184


<210> 5910
<211> 147
<212> DNA
<213> Homo sapiens

<400> 5910
ggtcccagct actcgggagg cttaggcagg agaatggcgt gaacccagga ggtggagctt      60
gcagtgagcc gagatcgcgc cactgcactc cagcctgggc gacagagcga gactccatct     120
caaaaaaaaa aaaaaaaaaa aattgtg                                         147


<210> 5911
<211> 235
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (230)
```

<223> n equals a,t,g, or c

<400> 5911
agatggagcc catcctggct aacacggtga aaccccgtct ttactaaaaa tacaaaaaat   60
tagccgggcg tggtggcgga cgcctgtagt cccagctact cgggaggctg aggcaggaga   120
atggcgtgaa cccgggaggc ggagcttgca gtgagccgag atcgcgccac tgcactccag   180
cctgggcgac agagcgagac tccgtctcaa aaaaaaaaa aaaaaaaan aataa   235

<210> 5912
<211> 143
<212> DNA
<213> Homo sapiens

<400> 5912
gtagtcccag ctactgggga ggctgaggca ggagaatggc gtgaacctgg gaggcggagc   60
ttgcagtgag ccgagatcgc gccactgcac tccagcctgg gcgacagagc gagactccgt   120
ctcaaaaaaa aaaaaagaa atg   143

<210> 5913
<211> 183
<212> DNA
<213> Homo sapiens

<400> 5913
aatacaaaaa attagccggg tgtggtggcg ggcgcctgta gtcccagcta ctcgggaggc   60
tgaggcagga gaatggcgtg aacccgggag gtggagcttg cagtgagctg agatcgtgcc   120
actgcactcc agcctgggcg acagagcgag actccgtctc aaaaaaaacc cacaaacaac   180
aaa   183

<210> 5914
<211> 196
<212> DNA
<213> Homo sapiens

<400> 5914
tctactgaaa atacagaaaa attagccggg cgtggtagcg ggcgcctgta gtcccagcta   60
ctcgggaggc tgaggcagga gaatggcgtg aacccgggag gcggagcttg cagtgagccg   120
agatcgcgcc actgcactcc agactgggcg acagagcgag actccgtctc aaaaaaaaaa   180
aaaaaaaaaa aatgac   196

<210> 5915
<211> 162
<212> DNA
<213> Homo sapiens

<400> 5915
agctacttgg gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg   60
agccgagatc ccgccactgc actccagcct gggcgacaga gcgagactcc gtctcaaaaa   120
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagaaca aa   162

<210> 5916
<211> 100
<212> DNA
<213> Homo sapiens

<400> 5916

2843

```
ctgaggcagg agaatggcgt gaacccgaga ggcggagctt gcagtgagcc gagatcgcgc    60
cactgcactc cagcctgggc gacagagcga gactccccctt                         100


<210> 5917
<211> 193
<212> DNA
<213> Homo sapiens

<400> 5917
aaaaattagc cgggcgtggt ggcgggcgcc tgtagtccca gctactcgag aggctgaggc    60
aggagaatgg cgtgaacccg ggaggcggag cttgcagtga gccgagatcg cgccactgca   120
ctccagcctg ggcgacagag cgagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaaga   180
tcagaaaaaa ata                                                      193


<210> 5918
<211> 153
<212> DNA
<213> Homo sapiens

<400> 5918
cccagctact cgggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca    60
gtgagccgag atcgcgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa   120
aaaaaaaaaa aaaaaaaaga aagcagtggg gcc                                153


<210> 5919
<211> 211
<212> DNA
<213> Homo sapiens

<400> 5919
ctggctaaca cagtgaaacc ccgtctctac taaaaataca aaaaaattag ccaggcgtgg    60
tggcgggcgc ctgtagtccc agctactcgg gaggctgagg caggagaatg gcatgaactc   120
aggaggtgga gcttgcagtg agccaagatc gcgccactgc actccagcct gggcgacaga   180
gtgagactct gtctcaaaaa aaaaaaaaga a                                  211


<210> 5920
<211> 280
<212> DNA
<213> Homo sapiens

<400> 5920
cggatcacga ggtcaggaga tcgagaccat cctggctaaa acggtgaaac cccgtctcta    60
ctaaaaatac aaaaaaattag ccgggcgtag tggcgggcgc ctgtagtccc agctacttgg   120
gaggctgagg caggagaatg gcgtgaaccc gggaggcgga gcttgcagtg agccgagatc   180
ccgccactgc actccagctt gggcgacaga gcgagactcc gtctcaaaaa aaaaaaaata   240
aataaaaaaa aaaaaaaaaa aaaaaaaaag aaaagaaaaa                         280


<210> 5921
<211> 193
<212> DNA
<213> Homo sapiens

<400> 5921
cgggcgtggt agcgggcgcc tgtagtccca gctactcggg aggctgaggc aggagaatgg    60
cgtgaacccg ggaggcggag cttgcagtga gccgagatcg cgccactgca ctccagcctg   120
ggcgacagag cgagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaaa aaaaattgac   180
```

2844

tcctaatcaa aaa

<210> 5922
<211> 175
<212> DNA
<213> Homo sapiens

<400> 5922
ccaaaaatta gccgggcgtg gtggcgggcg cctgtagtcc cagctactcg ggaggctgag   60
gcaggagaat ggcgtgaacc cgggaggcgg agcttgcagt gagctgagat cgcgccattg   120
cactccagcc tgggcgacag agccagactc agtctccaaa aaaaagaaga aaaga   175

<210> 5923
<211> 279
<212> DNA
<213> Homo sapiens

<400> 5923
cactttggga ggccgaggcg ggcggatcac gaggtcagga gatcgagacc attctggcta   60
acacggtgaa accccgtctc tactaaaaat acaaaaaatt agccgggcgt ggtagcgggc   120
gcctgtagtc ccagctactc gggaggctga ggcaggagaa tggcgtgaac ccgggaggcg   180
gagcttgcag tgagccgaga tcgcgccact gcactccagc ctgggcgaca gagcgagact   240
ccgtctcaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaga   279

<210> 5924
<211> 300
<212> DNA
<213> Homo sapiens

<400> 5924
gctcacgcct gtaatcccag cactttggga ggccgaggcg ggcggatcac gaggtcagga   60
gatcgagacc atcctggcta acacggtgaa accccatctc tactaaaaat acaaaaaatt   120
agccgggcgt ggtagcgggc gcctgtagtc ccagctactc gggaggctga ggcaggagaa   180
tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga tcgcgccact gcactccagc   240
ctgggcgaca gagcgagact ccgtctcaaa aaaaaaaaaa aaaaaaaaaa aaaaaattaa   300

<210> 5925
<211> 150
<212> DNA
<213> Homo sapiens

<400> 5925
ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg aacccgggag   60
gcggagcttg cagtgagctg agatcgcgcc actgcactcc agcctgggcg acagagcgag   120
actctgtctc aaaaaaaaaa aagaattggc   150

<210> 5926
<211> 142
<212> DNA
<213> Homo sapiens

<400> 5926
cccagctact caggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca   60
gtgagccgag atcccgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa   120
aaaaaaaaaa aaaaaaaatg ga   142

<210> 5927
<211> 122
<212> DNA
<213> Homo sapiens

<400> 5927
cgggaggctg aggcaggaga atggcgtgaa cccaggaggc ggagcttgca gtgagccgag   60
atcgcgccac tgctctccag cctgggcgac agagcaagac tctgtctcaa aaaaaaaaaa   120
ga   122

<210> 5928
<211> 268
<212> DNA
<213> Homo sapiens

<400> 5928
cggccgaatt ctgccctccg ctaacgagct atagctttgt ggaaatgggc gagtggcgtg   60
cccttgtgag cctcagggcc gcatctgtaa aatgggcata actgtcatgc ctgtctttaa   120
gaacagcctt gggggtaaat gagtggaact catggaaaga tctcagccca caaccttcca   180
cagaacaggc gcttctcaca cagtaagtag caggagtgca gaggctgcag gcatgaatcc   240
agccagactg cctgggttca agtcccag   268

<210> 5929
<211> 368
<212> DNA
<213> Homo sapiens

<400> 5929
ggcatgggca aggacttcat gtctaaaacg ccaaaagcaa tggcaacaaa agacaaaatt   60
gacaaatggg atctaattaa actaaagagc ttctgcacag caaaagagtc taccatcaga   120
gtgaacaggc aacctataca atgggagaaa aattttgcaa tctactcatc tgacaaaggg   180
ctaatatcca gaatctacag tgaactcaaa caaatttaca agaaaaaaac aaacaacccc   240
atcaaaaagt gggcaaagta tatgaacaga cacttctcaa aagaagacat ttatgcagct   300
aaaagacaca tgaaaaaatg cccatcatca ctggccatca gagaaatgca aatcaaaacc   360
acaatgag   368

<210> 5930
<211> 4704
<212> DNA
<213> Homo sapiens

<400> 5930
tattattata ctttaagttt cagggtacat gtgcacaatg tgcaggtttg ttacacatgt   60
atacatgtgc catgttggtg tgctgcaccc atcaactcgt catttagcat tagatatatc   120
tcctaatgct atccctcccc actccccta ccccacaaca gtccccggtg tgtgatgttc   180
cccttcctgt gtccatgtgt tctcattgtt caattctcat ctatgagtga gaacatgtgc   240
tgtttggttt tttgtccttg caatagtttg ctgagaatga tggtttccag cttcatccat   300
gtccctacaa aggacatgaa ctcatccttt tttatggctg catagtattc catggtgtat   360
atgtgccaca ttttcttaat ccagtctatc attgttggac atttcggttg gttccaagtc   420
tctgctattg tgaatagtgc cgcaataaac atacatgtgc atgtgtcttt atagcagcat   480
gatttacaat cctttgggta tatacccagt aatgggatgg ctgggtcaaa tggtatttct   540
agttctagat ccctgaggaa tcgccacacc gacttccaca atggttgaac tagtttacag   600
tcccaccaac agtgtaaaag tgttcctatt tctccacatc ctctcagcac ctgttgtttc   660
ctgacttttt aatgatctcc attctaactg ttgtgagatg gtatctcatt gtggttttga   720
tttgcatttc tgatgatggc cagtgatgat gagcattttt tcatgtgttt tttggctgca   780
taaatgtctt cttctgagaa gtatctgttc atatcctttg cccactttttt gatggggttg   840
tttgtttttt tcttgtaaat ttgtttgagt tcattgtaga ttctggatat tagccctttg   900

2846

```
tcagatgagt aggttgcaaa aactttctcc cattctgtag gttgcctgtt cactctgatg    960
gtggtttctt ttgctgtgca gaagctcttc agtttaatta gatcccattt gtcaattttg   1020
gctttttgttg ccattgcttt tggtgtttta gacatgaagt tcttacccat gcctatgtcc   1080
tgaatggtat tgcctaggtt ttcttctagg gtttttatgg ttttaggtct aacatgtaag   1140
tctttaatcc atcttgaatt aattttttgta taaggtgtaa ggaagggatc cagtttcagc   1200
tttctacata tggctagcag gttttcccag caccatttat taaataggga atcctttccc   1260
cattgcttgt ttttgtcagg tttgtcaaag atcagatagt tgtagatatg tgacattatt   1320
tctgagggct ctgttctgtt ccattggtct atatctctgt tttggtacca gtaccatgct   1380
gttttggtta ccatagcctt gtagtatagt ttgaagtcag gtagtgtgat gcctccagct   1440
ttgttctttt ggcttaggat tgacttggca atgtgggctc tttttttggtt ccatatgaac   1500
tttaaagtag tttttttccaa ttctgtgaag aaagtcattg gtagcttgat gggaatggca   1560
ctgaatcttt aaatgacctt gggcagtatg gccattttca cgatattgat tcttcctacc   1620
catgagcatg gaatgttctt ccatttgttt gtatccccctt ttatttcatt gagcagtggt   1680
ttgtagttct ccttgaagag gtccttcaca tcccttgtaa gttggattcc taggtatttt   1740
attctctttg aagcaattgt gaatgggagt tcactcatga tttggctctc tgtttgtctg   1800
ttattggtgt ataagaatgc ttgtgatttt tgcacattga ttttgtatcc tgagactttg   1860
ctgaagttgc ttatcagctt aaggagattt tgggctgaga tgatggggtt ttctagatat   1920
acaatcatgt catctgcaaa cagggacaat ttgacttctt cttttcgtaa ttgaatgccc   1980
tttatttcct tctcctgctt gattgccctg gccagaactt ccacactatg ttgaatagga   2040
gtggtgagag agggcatccc tgtcttgtgc cagtttttcaa agggaatgct tccagttttt   2100
gcccattcag tatgatattg gctgtgggtt tgtcatagct agctcttatt attttgagat   2160
acatcacatc aatacctaat ttattgagag tttttagcat gaagcattgt tgaattttgt   2220
caaaggcttt ttctgcatcc attgagataa tcatgtggtt tttgtctttg gttctgttta   2280
tatgctggat tacgtttatt gattttcgta tgttgaacca gccttgcatc ccagggagga   2340
agcccactag atcatggtgg ataaacttttt tgatgtgctg ctgtatttgg tttgccagta   2400
ttttattgag gattttttgca tcaatgttca tcaaggatat tggtctaaaa ttctcttttt   2460
tggttgtgtc tctgccaggc tttggtatca ggatgattct ggccacataa aatgagttag   2520
ggaggattcc ctcttttttct attgattgga atagtttcag aaggaatggt accagctcct   2580
ccttgtacct ctggtagaat tcggctgtga atccatctgt tcctggactt ttttttggttg   2640
gtaagctatt gattatttcc tcaatttcag tgcctgttat tggtatattc agagattcaa   2700
cttcttcctg gtttagtctt gggaggatgt atgtgtcaag gaatttatcc atttcttcta   2760
gattttgtag tttatttgca tagaggtgtt tatagtattc tctgatggta gtttgtattt   2820
ctgtgggatc ggtggtgata tccccttttat catttttttat tgcgtctatt tgattcttct   2880
ctctttttctt ctttattagt cttgctgtct atcaattttg ttgatctttt caaaaaacca   2940
gctcctgaat tcattaattt tttgaagggt ttttttgtgtc tctatttcct tcagttcttc   3000
tctgatctta gttatttctt gccttctgct agcttttgaa tgtgtttgct cttgcttctc   3060
tagttctttt aattgtgatg ttagggtgtc aattttagat cttttcctgct ttctctttttg   3120
ggcatttagt gctataaatt tccctctaca cactgctttg aatgtgtccc agagattctg   3180
gtatgttgtc tttgttctca ttggtttcaa agaacacctt tatttctgcc ttcatttcgt   3240
tatgtaccca gcagtcattc aggagcaggt tgttcagttt ccatgtagtt gagtggtttt   3300
gagtgagttt cttaatcctg agttctagtt tgattgcact gtggtctgag agacagtttg   3360
ttataatttc tgttctttga catttgctga ggagtgcttt acttccaact atgtcaattt   3420
tggaataggt gtggtgtggt gctgaaaaga atgtatattc tgttgatttg gggtggagag   3480
ttctgtagat gtctattagt tccgcttggt ttagagctga gttcaattcc tgggtatcct   3540
tgttaacttt ctgtcttgtt gatctgtcta atgttgacag tggggtgtta aagtctctga   3600
ttattattgt gtaggagtct aagtctcttt gtagttcact aaggacttgc tttatgaatc   3660
tgggtgctcc tgtattgggt gcatatatat ttaggacagt ttgcttttct tgttgaattg   3720
atccctttac cattatgtaa tggccttctt tgtctctttt gatctttgtt ggtttaaagt   3780
ctgtttttatc agagactagg attgcaatcc ctgccttttt ctgtttttcca tttgcttggt   3840
agatcttcct ccatcccttt attttgagcc tatgtgtgtg tctgcacgtg agatgggttt   3900
cctgaataca gcacactgat gggtcttgac tctttatcca atttgccagt ctgtgtcttt   3960
taattggagc atttagccta tttacattca aagttagtat tgttatatgt gaatttgatc   4020
ctgtcattat tatgtcagtt ggttattttg ctcattagtt gatgcagttt cttcctagcc   4080
tcgatggtct ttacaatttg gcatgttttt gcagtggctg gtactggttg ttcctttcca   4140
tgtttagtgc ttcttccttc aggagctctt ttaggacagg cctggtggtg acaaaatctc   4200
tcagcatttg cttgtctgta aagtatttta tttctccttc acttatgaag cttagtttgg   4260
ctggatatga aattctgggt tgaaaattct tttctttaag aatgttgaat attgcccccc   4320
actctcttct ggcttgtaga gtttctgcca agagatcagc tgttagtctg atgtgcttcc   4380
ctttgtgggt aacccgacct ttctctctgg ctgcccttaa catttttttcc ttcatttcaa   4440
ctttggtgaa tctggcaatt atgtgtcttg gagttgctct tctcgaggat tatctctgtg   4500
gtgttctctg tatttcctga atttgaatgt tggcctgcct tgctagattg gggaagttct   4560
```

2847

```
cctggataat atcctgcaga gtgttttcca acttggttcc attctccccg tcactttcag     4620
gtacaccaaa cagacgtagg tttggtcttt tcacatagtc ccatatttct tggaggcttt     4680
gtttcttttt attctttttt ctct                                           4704


<210> 5931
<211> 1090
<212> DNA
<213> Homo sapiens

<400> 5931
gaatgtaatt tatttttttt aattatactt taagtttttag agtacatgtg cacaacgtgc     60
aggtttgtta catatgtata catgtgccat gttggtgtgc tgcacccatt aactcgtcat    120
ttagcattag gtatatctcc taatgctatc tgtgcccccct cccccaaccg cacaacaggc    180
cccggtgtgt gatgttcccc ttcctgtgtc catgtgttct cattgttcaa ttcccaccta    240
tgagtgagaa catgtggtgt ttggtttttt gtccttgtga tagtttgctg agaatgatgg    300
tttccagctt catccatgtc cctacaaagg acatgaactc atcatttttt atggctgcat    360
agtattccat ggtgtatatg tgccacattt tcttaatcca gtctatcatt gttggacatt    420
tgggttggtt ctaagtcttt gctattgtga atagtgccac aataaacata cgtgtgcatg    480
tgtctttata gcagcatgat ttatagtcct ttgggtatat acccagtaat gggatggctg    540
ggtcaagtgg tatttctagt tctagatccc tgaggaatcg ccacactgac ttccacaatg    600
gttgaactag tttacagtcc caccaacagt gtaaaagtgt tcccatttct ccatatcctc    660
tccagcacct gttgtttcct gacttttttag tgattgccat tctaactggt gtgagatggt    720
atctcattgt ggttttgatt tgcatttctc tgatggccag tgatgatgag cattttttca    780
cgtgtctttt ggctgcataa atgtcttctt ttgagaagtg tctgttcata tcctttgccc    840
acttttttgat ggggttgttt gttttttttct tgtaaatttg tttgagttca ttttagattg    900
tggatattag ccttttgtca gatgagtaga ttgcaaaaat tttctcccat tctgtaggtt    960
gcctgttcac tctgatggta gtttcttttg ctgtgcagaa gctctttaga ttaattagat   1020
cccatttgtc aattttggct tctgttgccc ttgcttttgg tgttttagac atgaagtcct   1080
tgcccgtgcc                                                          1090


<210> 5932
<211> 7332
<212> DNA
<213> Homo sapiens

<400> 5932
ccaaggactg tagcaggaca agccacagac aaaacctctc agacacggag ctgtagaaga     60
aagggcttta ttcagctggg agcattggca agctactgcc ttaaaatccg agctccccga    120
gtgcacaatt tctgtcgctt ttaagagctc acaacactaa aatttcacat gaaagggtcg    180
tgattgattt gagcaagcaa ggggtacgtg acaggggctg catgcaccga tggtcaggga    240
gaaacagaac agggcaggga gtttcacaat gttcttctat agaatgtctg gaatctatga    300
ataacatcgg tttctaagtc atgagttgat ttttaactac taggtttagg ccaggcaggc    360
ccaggtccag ttttgggcct ggcgctgggc tgcctgtctt tgatttcact tccttttttt    420
tttaaaaaaa aaaaaaaaaa caggtactga gtataaaaca atatgagagg gtctctctct    480
tccctcgctt taactttcgg agggctgaaa ttctttctag ccttggttaa tacagcaatt    540
cattccattc tagctattgt tatttctctt actataattt tactattagt acttacgcta    600
ttctattatt ttcttaattt tccacttaat taggataaca aaccgaggcc gggctcccat    660
cctcctcaag cacacgaggg gggcctggcc cagcagggag cttcgcctgg tttctgaggg    720
aattcccggc gggcctttcc aaaacatgcc cgttcccttc cgctaacttc aggggccaag    780
aattgaactt tcaccctcct caagccggtg gcgctgcctc gctggcgttc ccagcgcgca    840
gccaaccgga tgccagccgg cggcattacc actgccagca tggggcgccc gcggacctcc    900
gactgaggca gctgccggga gccggaagtg tccccgggcgc cgggactgcg aggggccggg    960
gagttcccca agaccggaag tgtcccgagg ccgggagccc gcgggacccc ggagcgcgcg   1020
gggccggaag aggcgggcgg ccagtggagg tccgcagagt ttgggcgcca ggcgagacgg   1080
cagggcttaa agttccgggt gaggcgtggg tcccacaacc gcttggaatt tgcctcccgg   1140
ctccgctctg gaagctaaga aggggcacga gagccggaga cgggaacctg agagcaggga   1200
agccagtagc cggccggagg agcgcgcggc cgctccagtc ggaaggagcc gttgcagccc   1260
tgcccggcgt gtggcggggt cagcgaggcc cctgcggtgc ttcgcccgcg ccttccgctc   1320
cgcactcacc cgccctctgg gcctcccaca ggtcggcgcc gccagcggcg ggtaccggcc   1380
```

2848

```
cgcagaggga gggcgggctg tgaactggca gcacatcgcg ttcccgcggg gcccccattc   1440
tgcccaggca gggagcggct gggatgggac tgaggtcggt ccgcgagcgc ggtgccccag   1500
agacccggct tctggaagtt gccgcggcct gctcttgggg cccagaagta gggcggggag   1560
gcgcggggtc tggagtctgc aggacctggc tgcgaatcca accagctgat ttcaaacttt   1620
tctgtgatct tctgcaagtt aactaagtct cagttcctcg tttgcgaaat gtacttaata   1680
ggcaccccag ggtgaactaa atttgtccgc acagactgca gcattgcgct tgggaggcgc   1740
cttagggggt aggagtcact aatatcactg agttttgaca gaaatgaagg tgcattggca   1800
aaggtgtgcc ccatggccgg gcaggttagg aggagggcct ggtaatattt tttcttaaat   1860
tgtaaacagc catctggatg agcaatgcat tatcaaatta tgattcagag aggactatcg   1920
ctgactactc ttttttttgg gcaaacctcc gcttcaggag cttctggctt gattcctaag   1980
tggaaggtag agacctaggc cctctgagtc acaactccat ctctctgggt gaggactgag   2040
ctccaggact gctgagtgga ggcagaacaa ttgggatagg gaaaagagag gccaaactag   2100
atcagaggct ggcgtgggct tcagaatcta cagactggca cagttaatgc ctccgggccc   2160
ctattgctgc ttcaagtttg accaatcaga agtatcttta gcttaagggc ggcgtgttgg   2220
ccaatgagac tttattgtga aataaaatgc cctcagtttc atttaactga gccaccatag   2280
aagagtagag aaatcgagtt ggccagatga gggagaggcc attaagaggt attttaggga   2340
ttgaatgggc tgggcaccca gaggacagtg gcatttgggg tggtaatgag aaggaacatt   2400
aggggcctcc gcctccttcc gttcctcctg tgctgagtca gtcagcacag aggctgcagg   2460
aggtatctct ggttggcttt ggctgcctgt agggggcacc agctttgggg aggtcagagg   2520
gctctctcct gagctgctgt cctgcccaca atcacacctg cctgatgcct gtgaatggcc   2580
gtctgagtct cttgggcctt ggtcacttct ggcctgccct gcaccgacca gtaactgtgc   2640
ctgatgactg gaggtatggg aattcaccgg actttattgt tctttgtagg aatcaaagat   2700
caactcccac tgaggacaaa tggacctgta attccgggtg tgacgagaga acgagattta   2760
ccttcctgaa ttaaaaaaca ggtcattaag cttgggccct gactcttctt tgtgagaagg   2820
tacagagatg gaaaccttac aatccgagac taaaacgagg gtccttccct catggctgac   2880
agcccaggtg gctacaaaga atgtggcacc aatgaaggcc cccaagagga tgagaatggc   2940
agcagtgcca gtggcagcag caaggtgcga cagctctggt cagaagactc ctgcgaatct   3000
ggcaagtgga gcaggggcct ccatgacctg ggccaggtct tccagcctag gcagaacagc   3060
aagatgggcg ggtgtttcag tctgatcatc tcttgagctt ttagaaggtg gaggggctgt   3120
gggcgggagg caaagcgggt taaccctcga ggacaggcac ccacttctgc ctctgcactg   3180
gtgagtgccc tgccctcagc acacacagag tgggttctcc atgtcagcca gtctctgatg   3240
ccagttgtcc agaatgccag tctcttcctt tacaacaaac atggtaacat cagatgggca   3300
agatcagtgg aagggtctgt tctgagtggt gcctgcccct gtggacagac ctttagggat   3360
ggacagatga gcagcagctg cagggccagc aagagctaag gagctgggga gtgagttagt   3420
tgaatgacgg taattgccgg ggggggcgg gggggggtg gtgagtctcc aggctgcact   3480
gtgaagtggg cggggcccca gcactcggtg tttccctctc tggctcctcc tcctctaagg   3540
tttcctgact gacagccttc ccttgtgact gctgccgtct ttccctaagt ctggtcctgc   3600
tttcaggttc ctctcagtac agcctcagcc cgaggttccc ttcctcttgc atccatgtgt   3660
gtgtttcaga ggcggccatc cttccctact tccagatcct tgtagggcag ttggtggagg   3720
gtgggaggca ccccggtgtt gcctccatga agccctgtgc cagtcactgg gctgcaaggc   3780
tgaggaaatt gtgtccgtgt cagaaagctc ctcagctcag aggtgctggt acctcctgcg   3840
tggtaggaag gcagggggaa gaggccctgc ttctcctgtt ctctttgccc ttatgagact   3900
tgagagtctg tgtcatctgt gccttgcatg tcttttttc agactccctg cgacaaggac   3960
tgtgtactgc atgaatgagg ctgagatagt tgatgttgct ctgggaatcc tgattgaggt   4020
aaagtcagac aagcctctta ctcatgacca gaaactctgc atgggcagag gctagaccct   4080
tggtcaccgt cagtaagaga gacgccctct gccgtaggct acctcttctt cctcctgcca   4140
cttcccttgc tcttatctcg gccatgctgc ccaggcctct ccccatgtgg gtgtgcgctc   4200
gtggggtgtc tttgaggcta gaagcctggg agggcatgcg tgtgttaggg agggcgtgtg   4260
tgtgttaggg agagcgtgac tgtgcactgg tgtgtatgtg gatgggacat gaagcgttta   4320
cctgtttgtg ttcttggaaa ggttcccagt tgggtagatg acttcttagc cattgcccct   4380
ctcctgagca gaggatgctg agcttcctag cttcctgcag taataattgc agtgcctcag   4440
agttgcacag cattctacag tttaccaggt gccttgaaag catgcgttat gtcattttag   4500
ccttgcaata accctgtggt gtgggacttt tcctagtgct aaggcatggg cccacaccca   4560
ggttttgtat cctgggttct gtcaccggcc tttctagaca tgtttcttcc atttcttttt   4620
cctttcccct cagctaatcc tcatgccttt gcttgcttct ctcccgagtg ggttctggtt   4680
tcttcaagag ctgtgaagag ggggtcaggg gaaggagtgg ggtgaagaga gggtgggtgc   4740
tcaggatatg ggtacattgc ctggcctggt cacattggct ttgtagttgc ttctagatac   4800
atcctgtgtt actgacagat cagcatgtta gggaaataaa acacgtatgt tgagcctgcg   4860
ttttcccgta ctccacagag ccgcaaacag gaaaaggcct gcgagcagcc ggccctggcg   4920
ggggctgata acccagagca ctcccctccc tgctccgtgt cgcctcacac aagttctggg   4980
agcagcagtg aggaagagga cagtgggaaa caggcactgg ctccaggcct cagcccttcc   5040
```

```
cagaggccgg ggggttccag ctctgcctgt agcaggagcc ctgaggagga ggaggaagag    5100
gatgtgctga aatacgtccg ggagatcttt ttcagctagg gcataaactg tgcactgaac    5160
tgtctgccga gagcagctgg aggacagctg agcttccact ggtgctgctg ggccgcccgc    5220
ctgtgggaat ggggctctct gtgctcctac ctttgtgcct tcttgggcct ggcagattca    5280
cctcaggcca gaagcccctg gacactccgg gccttggggc tgccgttctg agtgtgcgga    5340
aggcaggact caaaatgaga tcccatttga ctccctctgt atgtactgtg ccctctcctg    5400
gctcttgagg ctctggagtc ccaattgtct gtgttagtca gtgaccaggt tccagggaaa    5460
atgatgtcat gtggtggtcc aacttactgg aaccaaagag acagtacttt gcaaagaaaa    5520
ggatcactgc caggtgcact ggaattgcta cagtttagtc cgcatgatct ctcctgaagg    5580
aggaagcctg tttcaaaaat agtttccatc atgagtctat caatgagctc ccacctctcc    5640
agccagccta gaaagcaaac gagctgccca cagttctctg ccctgtctgg gaggttgagg    5700
ccacagtgta tagactggta agccagacag gcctcctccc gcaagctgct accttgcttt    5760
cacctgtacc ttggtccccg ggcagctagc tataaagcaa gagggacagg agcccagaag    5820
agacactgag gacaagagat cacaccagag tacatgtctc tgcctctgtt ttcagtgtgg    5880
ctttggacag gaatatatga ataaatcact gccatacagg ttttccaata cacaagtgct    5940
agaaaataca cacaattccc caatgcgtaa gttgtgctaa tgtctttcca agttctgggt    6000
tgggaagtgg agggtggcag cgtttgtttg tgtgcagccg tccagtcctg ttcacagcga    6060
ggatttggag tcctccaggg tctcatcatg ggagtgattt gtcagcggac gcctctgccc    6120
tgtctggctt caggtccagg gaagctttga agcagtcaag ccttgtcttt gtaccccatg    6180
tgtcctgtct ttgttgagtc actcagagat cactcctgga cctctggggt tggagttcca    6240
gtgatggctt atggcggccc actcactatg gtgggctgag tggaagctcc ttaaccatgt    6300
ccccagagac actgaggtgc tcgctctttt aatgtcctcg tttgttgccg taagttcttt    6360
gctaggtttc attttggcat ttggcaaatc agcctggaag tctggcccca tgacagcaat    6420
cactccctcc ccaccctcct gaagctagag gaagatttgc tcagatccat taattaaagc    6480
aggaattggt gtgacaatga gctgcatggt ttagggagtc tttgggagcc ttggaagtcc    6540
tgaaggacag acaatcttgt actaagaagt cacaggtgcc ctggctgccc ttgctgcccc    6600
tcggcctctt tgacacaggg gccccacctc ctctgtagtg ggttccatcg ctggagctgg    6660
agatcagcgt tagctgtaaa atgagatggc tgagcagatg tgccacctct gaccatggtt    6720
ggaactgaac ccttgcaatc acgtaagcct ttagcagctc tcaagcttgc tctcagccct    6780
ctcagccctc agagggaaca cagccatggc tataagcaag aggatgagta aggcctgggc    6840
gctgcccaga gctagaaacc caggccccgg gagggagagc ctgacccact tccacacata    6900
ggagaggaag aggcccaggc cgcctgccag cagcacagag gacacagcca ggaagcccac    6960
tgccagccgc cacgctctct catcactgtt gcactgggct aggaggagag gctggggggc    7020
aaagagggtg aggaccaggg acccgtacac gccaagcctg gccaggccca ggccaacccg    7080
aggcaccccc agggcttcca gctcaggaa ctggtgacac tgtagggtgc tggtgtcctc    7140
attccacagg cagaagttat agaagccgat tctcaggttg ggcaggtcag tgaggttgcc    7200
agcctcccag agaagagcgt aaaacatcag gcagatgacc acaatcacga ggactatgat    7260
gctcatgaac agcagctggt cgcgccaccg aggccttggg ccggccatct ctactgccct    7320
ctgccggggg ac                                                        7332
```

<210> 5933
<211> 7334
<212> DNA
<213> Homo sapiens

<400> 5933

```
ccaaggactg tagcaggaca agccacagac aaaacctctc agacacggag ctgtagaaga     60
aagggctttta ttcagctggg agcattggca agctactgcc ttaaaatccg agctccccga    120
gtgcacaatt tctgtcgctt ttaagagctc acaacactaa aatttcacat gaaagggtcg    180
tgattgattt gagcaagcaa ggggtacgtg acaggggctg catgcaccga tggtcagaga    240
gaaacagaac agggcaggga gtttcacaat gttcttctat agaatgtctg gaatctatga    300
ataacatcgg tttctaagtc atgagttgat ttttaactac taggtttagg ccaggcaggc    360
ccaggtccag ttttgggcct ggcgctgggc tgcctgtctt tgatttcact tcctttttt    420
aaaaaaaaaa aaaaaaaaca ggtactgagt ataaaacaat atgagagggt ctctctcttc    480
cctcgcttta actttcggag ggctgaaatt cttttctagcc ttggttaata cagcaattca    540
ttccattcta gctattgtta tttctcttac tataattta ctattagtac ttacgctatt    600
ctattatttt cttaattttc cacttaatta ggataacaaa ccgaggccgg gctcccatcc    660
tcctcaagca cacgagggggg gcctggccca gcaggagct tcgcctggtt tctgagggaa    720
ttcccggcgg gcctttccaa aacatgcccg ttcccttccg ctaacttcag gggccaagaa    780
ttgaactttc accctcctca agccggtggc gctgcctcgc tggcgttccc agcgcgcagc    840
```

```
caaccggatg ccagccggcg gcattagcac tgccagcatg gggcgcccgc ggacctccga    900
ctgaggcagc tgccgggagc cggaagtgtc ccgggcgccg ggactgcgag ggggccggga    960
gttccccaag accggaagtg tcccgaggcc gggagcccgc gggaccctgg agcgcgcggg   1020
gccggaagag gcgggcggcc agtggaggtc cgcagagttt gggcgccagg cgagacggca   1080
gggcttaaag ttccgggtga ggcgtgggtc ccacaaccgc ttggaatttg cctcccggct   1140
ccgctctgga agctaagaag gggcacgaga gccggagacg ggaacctgag agcagggaag   1200
ccagtagccg gccggaggag cgcgcggccg ctccagtcgg aaggagccgt tgcagccctg   1260
cccggcgtgt ggcggggtca gcgaggcccc tgcggtgctt cgcccgcgcc ttccgctccg   1320
cactcacccg ccctctgggc ctcccacagg tcggcgccgc cagcggcggg taccggcccg   1380
cagagggagg gcgggctgtg aactggcagc acatcgcgtt cccgcggggc ccccattctg   1440
cccaggcagg gagcggctgg gatgggactg aggtcggtcc gcgagcgcgg tgccccagag   1500
acccggcttc tggaagttgc tgcggcctgc tcttggggcc cagaagtagg gcggggaggc   1560
gcggggtctg gagtctgcag gacctggctg cgaatccaac cagctgattt caaactttc   1620
tgtgatcttc tgcaagttaa ctaagtctca gttcctcgtt tgcgaaatgt acttaatagg   1680
caccccaggg tgaactaaat ttgtccgcac agactgcagc attgcgcttg ggaggcgcct   1740
taggggggtag gagtcactaa tatcactgag ttttgacaga aatgaaggtg cattggcaaa   1800
ggtgtgcccc atggccgggc aggttaggag gagggcctgg taatattttt tcttaaattg   1860
taaacagcca tctggatgag caatgcatta tcaaattatg attcagagag gactatcgct   1920
gactactctt tttttgggc aaacctccgc ttcaggagct tctggcttga ttcctaagtg   1980
gaaggtagag acctaggccc tctgagtcac aactccatct ctctgggtga ggactgagct   2040
ccaggactgc tgagtggagg cagaacaatt gggatatgggaa aaagagaggc caaactagat   2100
cagaggctgg cgtgggcttc agaatctaca gactggcaca gttaatgcct ccgggcccct   2160
attgctgctt caagtttgac caatcagaag tatctttagc ttaagggcgg cgtgttggcc   2220
aatgagactt tattgtgaaa taaaatgccc tcagtttcat ttaactgagc caccatagaa   2280
gagtagagaa atcgagttgg ccagatgagg gagaggccat taagaggtat tttagggatt   2340
gaatgggctg ggcacccaga ggacagtggc atttggggtg gtaatgagaa ggaacattag   2400
gggcctccgc ctccttccgt tcctcctgtg ctgagtcagt cagcacagag gctgcaggag   2460
gtatctctgg ttggctttgg ctgcctgtag ggggcaccag cttgggggag gtcagagggc   2520
tctctcctga gctgctgtcc tgcccacaat cacacctgcc tgatgcctgt gaatggccgt   2580
ctgagtctct tgggccttgg tcacttctgg cctgccctgc accgaccagt aactgtgcct   2640
gatgactgga ggtatgggaa ttcaccggac tttattgttc tttgtaggaa tcaaagatca   2700
actcccactg aggacaaatg gacctgtaat tccgggtgtg acgagagaac gagatttacc   2760
ttcctgaatt aaaaaacagg tcattaagct tgggccctga ctcttctttg tgagaaggta   2820
cagagatgga aaccttacaa tccgagacta aaacgagggt ccttccctca tggctgacag   2880
cccaggtggc tacaaagaat gtggcaccaa tgaaggcccc caagaggatg agaatggcag   2940
cagtgccagt ggcagcagca aggtgcgaca gctctggtca gaagactcct gcgaatctgg   3000
caagtggagc aggggcctcc atgacctggg ccaggtcttc cagcctaggc agaacagcaa   3060
gatgggcggg tgtttcagtc tgatcatctc ttgagctttt agaaggtgga ggggctgtgg   3120
gcgggaggca aagcgggtta accctcgagg acaggcaccc acttctgcct ctgcactggt   3180
gagtgccctg ccctcagcac acacagagtg ggttctccat gtcagccagt ctctgatgcc   3240
agttgtccag aatgccagtc tcttccttta caacaaacat ggtaacatca gatgggcaag   3300
atcagtggaa gggtctgttc tgagtggtgc ctgcccctgt ggacagacct ttagggatgg   3360
acagatgagc agcagctgca gggccagcaa gagctaagga gctggggagt gagttagttg   3420
aatgacggta attgccgggg ggggggggg cggggggggg tggtgagtct ccaggctgca   3480
ctgtgaagtg ggcggggccc cagcactcgg tgtttccctc tctggctcct cctcctctaa   3540
ggtttcctga ctgacagcct tcccttgtga ctgctgccgt cttttccctaa gtctggtcct   3600
gctttcaggt tcctctcagt acagcctcag cccgaggttc ccttcctctt gcatccatgt   3660
gtgtgtttca gaggcggcca tccttcccta cttccagatc cttgtagggc agttggtgga   3720
gggtgggagg caccccggtg ttgcctccat gaagccctgt gccagtcact gggctgcaag   3780
gctgaggaaa ttgtgtccgt gtcagaaagc tcctcagctc agaggtgctg gtacctcctg   3840
cgtggtagga aggcagggg aagaggccct gcttctcctg ttctctttgc ccttatgaga   3900
cttgagagtc tgtgtcatct gtgccttgca tgtctttttt tcagactccc tgcgacaagg   3960
actgtgtact gcatgaatga ggctgagata gttgatgttg ctctgggaat cctgattgag   4020
gtaaagtcag acaagcctct tactcatgac cagaaactct gcatgggcag aagctagacc   4080
cttggtcacc gtcagtaaga gagacgccct ctgccgtagg ctacctcttc ttcctcctgc   4140
cacttccctt gctcttatct cggccatgct gcccaggcct ctccccatgt gggtgtgcgc   4200
tcgtgggggtg tctttgaggc tagaagcctg ggagggcatg cgtgtgttag ggagggcgtg   4260
tgtgtgttag ggagagcgtg actgtgcact ggtgtgtatg tggatgggac atgaagcgtt   4320
tacctgtttg tgttcttgga aaggttccca gttgggtaga tgacttctta gccattgccc   4380
ctctcctgag cagaggatgc tgagcttcct agcttcctgc agtaataatt gcagtgcctc   4440
agagttgcac agcattctac agtttaccag gtgccttgaa agcatgcgtt atgtcatttt   4500
```

2851

```
agccttgcaa taaccctgtg gtgtgggact tttcctagtg ctaaggcatg ggcccacacc    4560
caggttttgt atcctgggtt ctgtcaccgg cctttctaga catgtttctt ccatttcttt    4620
ttccttttccc ctcagctaat cctcatgcct ttgcttgctt ctctcccgag tgggttctgg    4680
tttcttcaag agctgtgaag aggggggtcag gggaaggagt ggggtgaaga gagggtgggt    4740
gctcaggata tgggtacatt gcctggcctg gtcacattgg ctttgtagtt gcttctagat    4800
acatcctgtg ttactgacag atcagcatgt tagggaaata aaacacgtat gttgagcctg    4860
cgttttcccg tactccacag agccgcaaac aggaaaaggc ctgcgagcag ccggccctgg    4920
cggggggctga taacccagag cactcccctc cctgctccgt gtcgcctcac acaagttctg    4980
ggagcagcag tgaggaagag dacagtggga aacaggcact ggctccaggc ctcagcccctt    5040
cccagaggcc gggggggttcc agctctgcct gtagcaggag ccctgaggag gaggaggaag    5100
aggatgtgct gaaatacgtc cgggagatct tttttcagcta gggcataaac tgtgcactga    5160
actgtctgcc gagagcagct ggaggacagc tgagcttcca ctggtgctgc tgggccgccc    5220
gcctgtggga atggggctct ctgtgctcct acctttgtgc cttcttgggc ctggcagatt    5280
cacctcaggc cagaagcccc tggacactcc gggccttggg gctgccgttc tgagtgtgcg    5340
gaaggcagga ctcaaaatga gatcccattt gactccctct gtatgtactg tgccctctcc    5400
tggctcttga ggctctggag tcccaattgt ctgtgttagt cagtgaccag gttccaggga    5460
aaatgatgtc atgtggtggt ccaacttact ggaaccaaag agacagtact atgcaaagaa    5520
aaggatcact gccaggtgca ctggaattgc tacagtttag tccgcatgat ctctcctgaa    5580
ggaggaagcc tgtttcaaaa atagtttcca tcatgagtct atcaatgagc tcccacctct    5640
ccagccagcc tagaaagcaa acgagctgcc cacagttctc tgccctgtct gggaggttga    5700
ggccacagtg tatagactgg taagccagac aggcctcctc ccgcaagctg ctaccttgct    5760
ttcacctgta ccttggtctc cgggcagcta gctataaagc aagagggaca ggagcccaga    5820
agagacactg aggacaagag atcacaccag agtacatgtc tctgcctctg ttttcagtgt    5880
ggctttggac aggaatatat gaataaatca ctgccataca ggttttccaa tacacaagtg    5940
ctagaaaata cacacaattc cccaatgcgt aagttgtgct aatgtctttc caagttctgg    6000
gttgggaagt ggagggtggc agcgtttgtt tgtgcgcaac cgtccagtcc tgttcacagc    6060
gaggatttgg agtcctccag ggtctcatca tgggagtgat ttgtcagcgg acgcctctgc    6120
cctgtctggc ttcaggtcca gggaagcttt gaagcagtca agccttgtct ttgtacccca    6180
tgtgtcctgt ctttgttgag tcactcagag atcactcctg gacctctggg gttggagttc    6240
cagtgatggc ttatggcggc ccactcacta tggtgggctg agtggaagct ccttaaccat    6300
gtccccagag acactgaggt gctcgctctt ttaatgtcct cgtttgttgc cgtaagttct    6360
ttgctaggtt tcatttttggc atttggcaaa tcagcctgga agtctggccc catgacagca    6420
atcactccct ccccaccctc ctgaagctag aggaagattt gctcagatcc attaattaaa    6480
gcaggaattg gtgtgacaat gagctgcatg gtttagggag tctttgggag ccttggaagt    6540
cctgaaggac agacaatctt gtactaagaa gtcacaggtg ccctggctgc ccttgctgcc    6600
cctcggcctc tttgacacag gggccccacc tcctctgtag tgggttccat cgctggagct    6660
ggagatcagc gttagctgta aaatgagatg gctgagcaga tgtgccacct ctgaccatgg    6720
ttggaactga acccttgcaa tcacgtaagc ctttagcagc tctcaagctt gctctcagcc    6780
ctctcagccc tcagagggaa cacagccatg gctataagca agaggatgag taaggcctgg    6840
gcgctgccca gagctagaaa cccaggcccc gggagggaga gcctgaccca cttccacaca    6900
taggagagga agaggcccag gccgcctgcc agcagcacag aggacacagc caggaagccc    6960
actgccagcc gccacactct ctcatcactg ttgcactggg ctaggaggag aggctggggg    7020
gcaaagaggg tgaggaccag ggacccgtac acgccaagcc tggccaggcc caggccaacc    7080
cgaggcaccc ccagggcttc cagctcaggg aactggtgac actgtagggt gctggtgtcc    7140
tcattccaca ggcagaagtt atagaagccg attctcaggt tgggcaggtc agtgaggttg    7200
ccagcctccc agagaagagc gtataacatc aggcagatga ccacaatcac gaggactatg    7260
atgctcatga acagcagctg gtcgcgccac cgagaccttg ggccggccat ctctactgcc    7320
ctctgccggg ggac                                                      7334
```

<210> 5934
<211> 5071
<212> DNA
<213> Homo sapiens

<400> 5934

```
agctcatgtt ctcccttttgg catttcttac aaactcatgg caagtttccc tcctaccctg     60
ccctccacca aggaccagaa gtctgaggta acctcctgcc aggacctatt tgcaaataag    120
tcattagctg ccctctgatt tgaggtcagg aggaaaagtc tctcccaagc agctttgaaa    180
gtgtgaaaca tcttaaactg agtgaagtgc tctttagcca aaggctttgc tccagtccaa    240
atacaacaag ccattggaaa cattagtgag gggatttctc agatcttttt tgaaggtggg    300
```

2852

```
ttttgactga ggtgaagggc aaggcccacc cttaatggag acctgaaggt ggaggaagct    360
attggttttc accacagctg ccaagacaac cacctgggga gctgtaagaa ctacccattg    420
ctgggccaca gatcaatcag agctcaactt atgtgcttcg ggctgggcac tggtgtgttt    480
ctgaagctct gaagctcatt cgaaggtgag cctgggtcaa ggaccactga cacacccact    540
ctgattttac ctgcagtgct ctgggaactc attactgggt caagacaaga tgtcacctgg    600
tgatgaaatc ccatcatata ctcattactt taaaaactaa tacatatttt ttcctgacaa    660
tggtagtatg aattatagaa aacttagacg ttttttgtttg tttgtttgtt tttgagatgg    720
agcctcactc tgtcacccag gctggagtgc agtggtgcga tcttggctca ctgcaatctc    780
tgcctcccgg ggtcaagcaa gtctcctgcc tcagcctccc gagtagctgg gactacaggc    840
acccgccacc atgcctggct aattttttgta ttttttggtag agatgggttt caccatgttg    900
gccaggctgg tcttgattga actcctgacc tcaaatgatc cacccacctt ggcctcccaa    960
agtgctggga ttacaggcat gagccaccat gcctggccag aagatatttt aaaaataata   1020
ataaaaaaga taacctttta tcccatcata cacataaaac cactgttaat attctaccaa   1080
tattttcttc ctgtactgat gtatttttac ataatcatga tgttgaatgt aatgttttt   1140
cactagattt agtaaacatt tttcaaagct gttaaatatt cttcaaaaac atgatcaatg   1200
gctgtgcaat agttcatgtg ggatcatcca ttacactatt actagacaaa ttgtttccac   1260
ttttcaccat tataagtgaa gacgctgtgt gaatcgtgtt tggaatctga ttttttctcag   1320
gtgatctacc tataagtgca atcattggat caagggtaga aatatctttt agtgatcttg   1380
ctaaatactg cctaactggc ctacagaaaa tttgctaatc atagtccctc taattgtata   1440
taaaagtgcc cactttgtta tactcttta aaaaattctt ttcactccgt tttaaatcag   1500
aagggctttg tccagttggt ctctgaaaca gtggtctgca cactgtattt tacatatgtg   1560
tattttccag tatgggataa gtttcggctg atatggtttg gctgtgtccc tacccaaatc   1620
tcatcttgaa ttatagctcc cataatcccc acattgtggg agggacccag tgggaggtaa   1680
ttggatcatg ggggtgggtt tcccccatac tgtactcatg gtagtgagtc tcatgatatc   1740
tgatggtttt ataaagggca tttcccctgc acatgttctc ttgcctgctg ccatgtaaga   1800
tgtgcttttg ctcttccttt gccttttcacc atgattgtga ggcctcccta accatgtgga   1860
actatgagtc cattaaacct ctttttcttt tcaaattact gggtatctct tcatagcagt   1920
atgaaaatgg actaatacaa cagcattcac caggaagtga ctaggaacac agagcttcaa   1980
gctttgtgag gcacaaggta ctggggccat gataccaaat ggcctcctgg aagccccagc   2040
agggagtccc aggtggtgtt cagcagcaaa atgagtcgtg gccctgggaa gggacctgaa   2100
ggctacacag ccctgatgat cagtttctga ggggacccct ctgggggaac agctccctcc   2160
tctttcccag agctgactgg aaggtctgtc tcattctaca cactgcattt gttacagaaa   2220
gggaccaagt ggggaaaata aagaacatgg aacaggctga gagagagggc agctccattc   2280
aaaggaccta ggtgtatgcc aaaaatgaga atgaagattg accagcgact tctttggcag   2340
agacctgggc aggctggctg atggagagct ggggcctgtg aatacagtaa gggtgggggtc   2400
cacactgcca ccgcctcccc tcagatgccg cttctctgga ctcagcagca ctgggcagtc   2460
tgcccagttc tgcccgtggc ttctgctcca gagaagccca gtggggacag tcagagtgga   2520
ggagtgaggg gctgtcccag cagaagccct ggctgctgcc ttgggtggca ctgtcaaagg   2580
ctctggaggt cccagagggc caagggtctg aagactcggg tttgaatgta gttgagagat   2640
tcttggagca atgatgcttg ttacggaagg aattattggg aattgaaaag gtggcattag   2700
tctgggatga taaggagttt taaccatttg agtccatggt atgggaaaaa ttgccgacgg   2760
gaacatattt tgtatggttt tgcttatta gtaaatgttt gtaaaagcct atatctgtgc   2820
ttttaatggg tttgggtatt ttagggtgtg gaatagattt ccaggacttc cctgatttat   2880
accatcatgc tgtggaaaag aaggtttgac ctcctccatt gttcaggacc aactgggaag   2940
ggacttgggg atgcctttgt ttaaacactc cctctcactt ttcccatttg aattctgtta   3000
cactggggtt ccaaaaaaaa ttattaaacg ttttgctttg aaaacagctg cctttttaaa   3060
aattaatgtg gctcctcggg gagattgcat cagccacctt gcggcagctc ctgccagacg   3120
ccaggagcct ttgttttgac ttcctcattt tctctcaact gacctttaa tgtagagcaa   3180
aacaaaacga gccaagaagc ccaggaccag gcatgtggag aaggtggtgg cctctcacct   3240
ttttatattc agtcccagct cttatgaggc tcgccatcat ctggtgcgac ttggaacttg   3300
aacttggaat tctctggtga ggcccagctt cccctcttgc cttgtgcagt ccagcacctg   3360
ctcagctgct caggctgtgt atgaatacat tcccatctgc ccatcctcag ccaccccca   3420
gctcctagag tcctactcta ctttctgctt ctctaaatct gatccatgca gcaagagcat   3480
tcctgggctc cttcagccca cactctggtt tagctataaa ttaggattta ttctccactc   3540
tagtgtcatg tctctgagga acagtcttca gttttgttat tttgatacac agtaggggct   3600
ctttttttg ttttttttt ttaaatgagc gaatgaaaat gctacatagg ctccctgagt   3660
tctttcatgt acgaatcctg gttacacatc ttaggacagc agagctgcct gagggagggt   3720
tgtgtttaat gtcgtatgca tgctcagcac agtgctggca tggcccatcc atgctttctg   3780
ttgaactatg gacagaattc aggaacttgt gtatggagag ggtggaagtc agtcctcgct   3840
tctttcccta aacattttgc agtgacagca tatggatctt gggttggaaa ccccatgaca   3900
ctcttctcta cttccccatg ggccttccct ggttttgtt tttcttttct taaacaatcc   3960
```

2853

```
tggtaatgac acttccacca caatgagctt ttaaatgtcc tttaatgata agccagtgtt    4020
tccttcagag ggcaaagggg agactgctga gtcactgtgg ccatttttag ataaaccttt    4080
tcctgtttat aataacacat gctgattgta ggaaactaga aaatacatga aagtgcagag    4140
aaaagactaa aagtcatcta tacttcaggt cgtagaaata accactctga acagcacact    4200
tctttttaca ctattgtttt acactgttgg gattacataa atatatatgt ttgtatccca    4260
ctttgtgaac atcattctat gtgaactaga aatggttcct aaacattaag ggctgcatat    4320
agctgtatca tagtttatag tttatacata gatgctttgt aacattattt tataatgcta    4380
tgaatgctat ggtgaatatt tttgtgaatc aacttatgtt tccaccagca gtttcagaga    4440
gtgcctgtct catcccatcc tccccagtat tgcatattct tgagtctttt attctttgat    4500
aatgacaaat gatgaatcat tgatagtttt tcttcataat aagtaaagtt taacattttc    4560
aagtgtttgt tgaccatctg tatttcttct tttgtgaagt gctgtcagtt cttttgctat    4620
tttaaaaata attttgagtt tcagtttttg tttgttggtc tgtatgaacc ctttaaaaat    4680
aaaggctgtt agccttttgc catcttagtt gtgacagtaa agtataatgc tttgctgcac    4740
taggtcctct ggaacaagat gcagatttag attccaggtc agcatgtaac ttgaccactg    4800
tcactcaaga gttacagcct gagcagggcc ttaggaggga gatgatttct gcttaaaggc    4860
gatacaaatt cctagttagg gaaatagaag gaaagtattc tcaggagatt aatttaaggc    4920
agcttttttg ttggtttaag cacctctaac attttcatac taataaggga gaatgggatg    4980
gcggctgaaa gagacacaaa tattgtatca tttaattcta aattatgtat ttgtcaggtt    5040
cttattgaaa gagtaaattt tcgaaaggat c                                    5071


<210> 5935
<211> 512
<212> DNA
<213> Homo sapiens

<400> 5935
ttttttccag acaaaatacc acgctcacac cacacatacc acaagacaaa gaacaggtaa      60
agagggcaca cacacttttta ccgtttatac caaaccaaaa tcacgaaatt caaaatccga     120
gtaccaaaaa attcaagcca agtcaaaacc aaaaccaaag tatccagcaa ttcaagtcaa     180
gtcaaaacca gaacaagagt gcccatgcag gcatgctgtg ggtgatcagg ccacgtttcc     240
actcagatgg agtggggcaa gttccaaaga ctagtcttac caagtcaagc caagtcaaaa     300
ccagaacaaa agtgccaata caggcacacc gtgggtgatc aggccacgct tccactcacg     360
tggagtgggg caagttccaa agactagtct taccaagtca agccaagtca aaaccagaac     420
aaagatgtca atacaggcac accgtgggtg atcaggccat gcttccactc acatggagtg     480
gggcaagttc caaaaactag tcttgacaag ct                                    512


<210> 5936
<211> 5072
<212> DNA
<213> Homo sapiens

<400> 5936
agctcatgtt ctccctttgg catttcttac aaactcatgg caagtttccc tcctaccctg      60
ccctccacca aggaccagaa gtctgaggta acctcctgcc aggacctatt tgcaaataag     120
tcattagctg ccctctgatt tgaggtcagg aggaaaagtc tctcccaagc agctttgaaa     180
gtgtgaaaca tcttaaactg agtgaagtgc tctttagcca aaggctttgc tccagtccaa     240
atacaacaag ccattggaaa cattagtgag gggatttctc agatcttttt tgaaggtggg     300
ttttgactga ggtgaagggc aaggcccacc cttaatggag acctgaaggt ggaggaagct     360
attggttttc accacagctg ccaagacaac cacctgggga gctgtaagaa ctacccattg     420
ctgggccaca gatcaatcag agctcaactt atgtgcttcg ggctgggcac tggtgtgttt     480
ctgaagctct gaagctcatt cgaaggtgag cctgggtcaa ggaccactga cacacccact     540
ctgattttac ctgcagtgct ctgggaactc attactgggt caagacaaga tgtcacctgg     600
tgatgaaatc ccatcatata ctcattactt taaaaactaa tacatatttt ttcctgacaa     660
tggtagtatg aattatagaa aacttagacg ttttttgtttg tttgtttgtt tttgagatgg     720
agcctcactc tgtcacccag gctggagtgc agtggtgcga tcttggctca ctgcaatctc     780
tgcctcccgg ggtcaagcaa gtctcctgcc tcagcctccc gagtagctgg gactacaggc     840
acccgccacc atgcctggct aatttttgta ttttttggtag agatgggttt caccatgttg     900
gccaggctgg tcttgattga actcctgacc tcaaatgatc cacccacctt ggcctcccaa     960
agtgctggga ttacaggcat gagccaccat gcctggccag aagatatttt aaaaataata    1020
```

2854

```
ataaaaaaga taacctttta tcccatcata cacataaaac cactgttaat attctaccaa    1080
tattttcttc ctgtactgat gtattttac ataatcatga tgttgaatgt aatgtttttt    1140
cactagattt agtaaacatt tttcaaagct gttaaatatt cttcaaaaac atgatcaatg    1200
gctgtgcaat agttcatgtg ggatcatcca ttacactatt actagacaaa ttgtttccac    1260
ttttcaccat tataagtgaa gacgctgtgt gaatcgtgtt tggaatctga tttttctcag    1320
gtgatctacc tataagtgca atcattggat caagggtaga aatatctttt agtgatcttg    1380
ctaaatactg cctaactggc ctacagaaaa tttgctaatc atagtccctc taattgtata    1440
taaaagtgcc cactttgtta tactctttta aaaaattctt ttcactccgt tttaaatcag    1500
aagggctttg tccagttggt ctctgaaaca gtggtctgca cactgtattt tacatatgtg    1560
tattttccag tatgggataa ggttcggctg atatggtttg gctgtgtccc tacccaaatc    1620
tcatcttgaa ttatagctcc cataatcccc acattgtggg agggacccag tgggaggtaa    1680
ttggatcatg ggggtgggtt tcccccatac tgtactcatg gtagtgagtc tcatgatatc    1740
tgatggtttt ataaagggca tttcccctgc acatgttctc ttgcctgctg ccatgtaaga    1800
tgtgcttttg ctcttccttt gcctttcacc atgattgtga ggcctcccta accatgtgga    1860
actatgagtc cattaaacct cttttttcttt tcaaattact gggtatctct tcatagcagt    1920
atgaaaatgg actaatacaa cagcattcac caggaagtga ctaggaacac agagcttcaa    1980
gctttgtgag gcacaaggta ctggggccat gataccaaat ggcctcctgg aagccccagc    2040
agggagtccc aggtggtgtt cagcagcaaa atgagtcgtg ccctgggaa gggacctgaa     2100
ggctacacag ccctgatgat cagtttctga ggggacccct ctgggggaac agctccctcc    2160
tctttcccag agctgactgg aaggtctgtc tcattctaca cactgcattt gttacagaaa    2220
gggaccaagt ggggaaaata aagaacatgg aacaggctga gagagagggc agctccattc    2280
aaaggaccta ggtgtatgcc aaaaatgaga atgaagattg accagcgact tctttggcag    2340
agacctgggc aggctggctg atggagagct ggggcctgtg aatacagtaa gggtgggggtc   2400
cacactgcca ccgcctcccc tcagatgccg cttctctgga ctcagcagca ctgggcagtc    2460
tgcccagttc tgcccgtggc ttctgctcca gagaagccca gtggggacag tcagagtgga    2520
ggagtgaggg gctgtcccag cagaagccct ggctgctgcc ttgggtggca ctgtcaaagg    2580
ctctggaggt cccagagggc caagggtctg aagactcggg tttgaatgta gttgagagat    2640
tcttggagca atgatgcttg ttacggaagg aattattggg aattgaaaag gtggcattag    2700
tctgggatga taaggagttt taaccatttg agtccatggt atgggaaaaa ttgccgacgg    2760
gaacatattt tgtatggttt tgcttattta gtaaatgttt gtaaaagcct atatctgtgc    2820
ttttaatggg tttgggtatt ttagggtgtg gaatagattt ccaggacttc cctgatttat    2880
accatcatgc tgtggaaaag aaggtttgac ctcctccatt gttcaggacc aactgggaag    2940
ggacttgggg atgcctttgt ttaaacactc cctctcactt ttcccatttg aattctgtta    3000
cactgggggtt ccaaaaaaaa ttattaaacg ttttgctttg aaaacagctg cctttttaaa    3060
aattaatgtg gctcctcggg gagattgcat cagccacctt gcggcagctc ctgccagacg    3120
ccaggagcct ttgtttttgac ttcctcattt tctctcaact gacctttttaa tgtagagcaa   3180
aacaaaacga gccaagaagc ccaggaccag gcatgtggag aaggtggtgg cctctcacct    3240
ttttatattc agtcccagct cttatgaggc tcgccatcat ctggtgcgac ttggaacttg    3300
aacttggaat tctctggtga ggcccagctt cccctcttgc cttgtgcagt ccagcacctg    3360
ctcagctgct caggctgtgt atgaatacat tcccatctgc ccatcctcag ccacccccca    3420
gctcctagag tcctactcta ctttctgctt ctctaaatct gatccatgca gcaagagcat    3480
tcctgggctc cttcagccca cactctggtt tagctataaa ttaggattta ttctccactc    3540
tagtgtcatg tctctgagga acagtcttca gttttgttat tttgatacac agtaggggct    3600
cttttttttg tttttttttt tttaaatgag cgaatgaaaa tgctacatag gctccctgag    3660
ttctttcatg tacgaatcct ggttacacat cttaggacag cagagctgcc tgagggaggg    3720
ttgtgtttaa tgtcgtatgc atgctcagca cagtgctggc atggcccatc catgctttct    3780
gttgaactat ggacagaatt caggaacttg tgtatggaga gggtggaagt cagtcctcgc    3840
ttctttccct aaacattttg cagtgacagc atatggatct ttggttggaa accccatgac    3900
actcttctct acttccccat gggccttccc tggttttgt ttttctttc ttaaacaatc      3960
ctggtaatga cacttccacc acaatgagct tttaaatgtc ctttaatgat aagccagtgt    4020
ttccttcaga gggcaaaggg gagactgctg agtcactgtg gccatttta gataaacctt      4080
ttcctgttta taataacaca tgctgattgt aggaaactag aaaatacatg aaagtgcaga    4140
gaaaagacta aaagtcatct atacttcagg tcgtagaaat aaccactctg aacagcacac    4200
ttcttttttac actattgttt tacactgttg ggattacata aatatatatg tttgtatccc    4260
actttgtgaa catcattcta tgtgaactag aaatggttcc taaacattaa gggctgcata    4320
tagctgtatc atagtttata gtttatacat agatgctttg taacattatt ttataatgct    4380
atgaatgcta tggtgaatat ttttgtgaat caacttatgt ttccaccagc agtttcagag    4440
agtgcctgtc tcatcccatc ctccccagta ttgcatattc ttgagtcttt tattctttga    4500
taatgacaaa tgatgaatca ttgatagttt ttcttcataa taagtaaagt ttaacatttt    4560
caagtgtttg ttgaccatct gtatttcttc ttttgtgaag tgctgtcagt tcttttgcta    4620
ttttaaaaat aattttgagt ttcagttttt gtttgttggt ctgtatgaac cctttaaaaa    4680
```

```
taaaggctgt tagccttttg ccatcttagt tgtgacagta aagtataatg ctttgctgca      4740
ctaggtcctc tggaacaaga tgcagattta gattccaggt cagcatgtaa cttgaccact      4800
gtcactcaag agttacagcc tgagcagggc cttaggaggg agatgatttc tgcttaaagg      4860
cgatacaaat tcctagttag ggaaatagaa ggaaagtatt ctcaggagat taatttaagg      4920
cagctttttt gttggtttaa gcacctctaa cattttcata ctaataaggg agaatgggat      4980
ggcggctgaa agagacacaa atattgtatc atttaattct aaattatgta tttgtcaggt      5040
tcttattgaa agagtaaatt ttcgaaagga tc                                    5072
```

<210> 5937
<211> 512
<212> DNA
<213> Homo sapiens

<400> 5937
```
ttttttccag acaaaatacc acgctcacac cacacatacc acaagacaaa gaacaggtaa        60
agagggcaca cacactttta ccgtttatac caaaccaaaa tcacgaaatt caaaatccga       120
gtaccaaaaa attcaagcca agtcaaaacc aaaaccaaag tatccagcaa ttcaagtcaa       180
gtcaaaacca gaacaagagt gcccatgcag gcatgctgtg ggtgatcagg ccacgtttcc       240
actcagatgg agtggggcaa gttccaaaga ctagtcttac caagtcaagc caagtcaaaa       300
ccagaacaaa agtgccaata caggcacacc gtgggtgatc aggccacgct tccactcacg       360
tggagtgggg caagttccaa agactagtct taccaagtca agccaagtca aaaccagaac       420
aaagatgtca atacaggcac accgtgggtg atcaggccat gcttccactc acatggagtg       480
gggcaagttc caaagactag tcttgacaag ct                                    512
```

<210> 5938
<211> 9717
<212> DNA
<213> Homo sapiens

<400> 5938
```
aagttatata ccttgaaagt ccctgccatg acacttatta gaccagattt tttgatatgt        60
tgttaagtca tcctgaccct gtttatgtac aaactcaatc tttgtgtggt tgatggtcta       120
catgagatat gtcaagtgtt tgtcaatgga tttggtccat agtaaatgtt cactaagagg       180
aagaggcagt atttaggaac atatattcta tgttaaacag cctaggttga aatgttgact       240
tctcttattt gctatgcgat cccgtgcaag ttcctgaatt ttgctgtgcc ttggttttgt       300
tatataactc ctggaagtgt gacgatggcc acatgagttc atacatgaaa acctcttaga       360
aaatgcttgg gacacattaa aaactcagta actgttagct actattacct tcaaaatata       420
accaagtgac aaaagggggag tacaactaat cctcagaaaa tcagattaat attctggctt      480
tgcgacctgt acaaagtact taatttccca gtttagtgcc tttgtctgtg aaatgatacg       540
taacttttat ggctattatg atgataaagt aagaaatgca tgccaagtgc ctaacataaa       600
atcaatgcta agaaatggta gctattatta gtaataatga taaagaattt gcaaaaatt        660
tccctttaaa tcctaggcgt tggtcatatt gaattacttg tagtttctca aacatgttct       720
cttgttttca tgtgtacctg ctgtcttgct ttgctactcc actgtattct tcacttgatt       780
gcctcctact agttcttcaa gatgcaggtg tttccttccc tggaaaacat ttcctaaagt       840
caggggacgt gtttttctgtt ttcctctatt attgtacttc ttatactctc taattttcta     900
ttgacctatt ttcttccaat ataagacact ttcttcttgt gtgattttca gataagctac       960
taaagtcttg gtttcctcat ctgtgaaaca gggatgtaaa aattaaatga gatgcacttg      1020
gcacttaggc caatgtctag caccttcccc aatcccaaga acataatagg cagtcaacag      1080
gtgtttactt atgaaatgaa aataatgatt tacaaatttt attcaatcta aaaaaaaaat      1140
cagaatgtgt agaccataca taggagagag ggcatccccc caaaatctga tgttaagtga      1200
ataaaatcaa tgtcatgaag cagaatggtg gttgccagag gctggggaaa agagggaata      1260
gacagttatt gtttaatgaa tacagtttca attgtataag atgaaaataa ttctgaagat      1320
ggatggtggt gatggttgta caacttatga acatatgtaa tatactgaac tgtacactta      1380
aaatagttat gacaaatttt attgtatata ttgcaccaca ttgaaaaaaa atcaacatca      1440
tgaatgagat taaaacaaag gtcattttaa gagaatattt ctcaggccag gaaagacctg      1500
gttatagcct aattagtagt gatattaaca gtaggggact agtcagcatg gaaacacaca      1560
caaaaaacag agtcacgttg ccaggggaga tgatcaatct ggggactaga taattccagt      1620
cactttaaaa taattttgtt acaaagcagg ggtggtttat caacttcacc acggcctaaa      1680
agaaatatgc tcatgcataa acctctgaac aggtgatttg gtgtgcagag tgctttggct      1740
```

```
ttgctgttta gagagaagaa cactggaaaa caggtgggtg taggtgttgt caatgaaaag   1800
aaagattatc ctttgtaaat taatgagatg gtatcctgat ttatgcatat gtcccttctg   1860
ttctgagtct gtttattagg agtaagtttc cctttctctg atcaactcaa gattgacttt   1920
ataggtatga aaaatccaaa gcaaaaccct cagcaatcat gacctaccaa taaatgaaat   1980
gacagtttag gaatccttct gatcccccaa aaccacaaca gggcaaagtt cattggtaaa   2040
cagcaaaaaa aattacatga acactataaa catttttttag atattttgtc ttttttttcaa   2100
aggaataata gtaacaaaaa aacaagagag ctcataaaaa gtattctgag tataaggaac   2160
ataatcttaa tattccatac tactcatttt tcaaagaata tatccaagac tttgaaagtg   2220
gaatcagaaa tggaaaaagg accaaaaaga aaaaaaaaga tagtgaagag aatccagaaa   2280
taatttggtg gcaggttttt attttattca tttatttttg agacagagtc ttgctgtgtt   2340
gcccaggctg gtgtgcagtg gcaagatctc agctcactgc aacctctgcc tcccaggctc   2400
aagcgattct cgtgcctcag cctcctgagt agctgagatt ataggtgtgc gccaccatgc   2460
ctggctgatt ttatattttt agtagagaca gggtttttgcc atattggcca ggctggtctt   2520
gaactcctag actcaagtga tttgcccatc ttggcctccc aaagtgctgg gaattatagg   2580
tgttagccac cgcgcccagc cctgaagcag gcttttagat aagattgcat gtccatgaaa   2640
attttgaggg aagaaaaaaa cttccaccct gttgcaaaga ttaaggcagt gaaaggaatc   2700
tgaaaaacac tggatctatt atgaccaagc ttgtctgctc ttaatgcatt ccaaactcct   2760
agttccactt tgcatttcaa tgtagaaata taacagtgtt ggtaacaaag taacatctga   2820
cattccatga taattcttgg ggaaaggaag tctcttttgt gaaatataga tggagtcaaa   2880
tgccttagga gaagttttgg tcaaaacgtg gtcctctaca tgagctctag aagaaatcat   2940
tcggctcctt ctactgctgt cgtggaaaca ggtttcacat agtatggccc ttcactcagg   3000
taagttctga gcctcaaata atttgggttc ccaaagattt ctgcaattgt cttggaattg   3060
gcaagtgctt tcactagttc atatttggca tcctttgaag ctttgtcatg ctccacagac   3120
cggtccacca catattctac aaaacctgga ctgttaaaca taagtttctg agcccagggt   3180
tggtttgcaa tggcctgaaa tggaaggcag aaagaataca attcccctga gtggaagttg   3240
tttgttaatg ggatggcaca atatttacaa agaaatctgg caacatgaac tttaaaaatg   3300
ttaccttttg tctaagtaaa ttccttcctg agaatctaac ttaataaaat aatcttaaat   3360
atgaaaaatc tttgtataca aaaatgttca taatagtgtg aaagttacaa tataaatatc   3420
taataatggg agaatggtta agtaaattat ggtatatagc aataaaaata aacattaaca   3480
ataatgttta caaaaaatag gaaatgatac aggtaaacct gttatataaa aaaagcagat   3540
tcaaattata aacaatgcat gattacaaca gtggaaaaat aaaaactaaa gtagaaaaga   3600
ctaacctcaa gatactcata tagtgcacaa acattttcaa gaatgttcat tgtggtatca   3660
tttgtaagat actatctaaa tcttcattta taggagaatg atatattgtg gctattcaat   3720
gaaataccaa cttttctaact gcctctttta acatagacaa attttaaaaa aacgtaacat   3780
tgaagagaaa aaaaaaaaaa gcaaaaactg caattacttt tgcaccaacc taatggaatg   3840
atacaaacag catgatacca cttacaaagt ttatgaatat ctaaaatact gtgtttatt   3900
taaggataca cacaatatgt agtagaaata tgaaatcatt tatgggccct gactttgtga   3960
tagtgatttt atctaagaac agaggaaggg gaataggact gggcagaggt agcaagatac   4020
aactatattt gaaatatttc accaaaaata aacacacact aatacaaaaa ctaaaaggaa   4080
atacaccaaa aggtagaact ttctgtgatt ttaaaaaatt ctacttctaa gtctttttcca   4140
aattttaaga ttaagttttt caaaacctat tacgtttaa tgaaaagaa gtaacaagtt   4200
tatggcctag ttttttcctc tcaaaatgtg ttccacagac aagtagcatc agcaacacct   4260
gcgagcttgt tagactttca ggatcccagg ctctgcccca caactactga attagaatct   4320
acattttaat aagattccta agattaatgt ttgagaaact ttggcctgct tcacaaccaa   4380
gcatgaaagt aggcagaaat aaaaatagtt atcccaacca gtaaatagaa aattatttct   4440
acaatggaac cagctaagca caggataagg tagaagagca aaaccaaaat aaactaataa   4500
tgaaaatact aagcaggatc caaaatggcc atctcataca atgaccattt acaagggtga   4560
agcagtctta aagaaatgtt tctggctagg cgcggtggct cacgcctgta atcccagcac   4620
tctgggaggc cgaggcgggc ggatcacaag gtcaggagat cgagaccatc ctggctaaca   4680
cagtgaaacc ccgtctctac tagaaataca aaaagaaatt agtcgggcat ggtggtgggc   4740
gcccgtaggc tagctgctcg ggaggctgag gcaggagaat ggcgtgaacc cgggaggtgg   4800
tgcttgcagt gagccaagat cacgccactg cattccagcc tgggcgacag agcgagactc   4860
tgtctcaaaa aaaaaaaatgt ttctgaagat tataggaata cctgtatcct tcaagaccca   4920
gatcctgtat cgcatcctca ggaagccttc cctcttttgt ccctgccatt ttccttattc   4980
cctcccagtc taggccatgt atgctgtctg agatcccatt attgatatga ttactaaagc   5040
gattactatc ttgctatgct ggggctacaa agataaatca gatatgcttc ctgctctcag   5100
ccaactctac ttaataggta agacaagtcg ataaataaac atttgcaaaa taatataaca   5160
aatagaacac aaaggtataa tccttaccac agctgtaatt atataagtaa ctgtacaatt   5220
atatttactg cctggctcct tcaatagaca ggaaactaca tgaaaggaag gtctttatat   5280
attttcttca ctgttgtatg cccttcactg agcaaaaacg gaaactcaac aaatatttgc   5340
tgaataaata aatgcaacat atgagaacca acattgttta actcaacctt gtcaatctgg   5400
```

2857

```
gcaaagtgtg ctgaagacaa ggagttagtc cttgacgagt gagtaagagg ttaagaagca      5460
aagttaagga agagtgttag atacggagac cccagcaaag gtccagagac acaaaacaaa      5520
cagtttggta ccactggagc attaggtgcc agaagcctta ttttctgcac gggaaataag      5580
gattaggaag accagggcta ggttaataga ggatggcaga taaaaagtct ggaattaact      5640
gtgtgatccc atagcatcct gttcaaacct caaacagcac ctaatatctt ttactgaaac      5700
aatctgttta cacatctgtc tccttactta gtctctaagg tagcagaagg tagaaactat      5760
actatgcact tgtgcatccc cagagatggc acaggctctg gctcactgtt aagtactcaa      5820
gtgttgagct ggcagggtcc cagaaggacc tatggaagtg aatacctacc gtaaacactt      5880
ttaaggcagc acagtgtagt tcagggaagg gctgactact aatgccacgg aagagctcca      5940
gtggatcccg agataaagaa gaaaaccagg attctgtcat cctcagaagg tcatcagtct      6000
gctgctcagg ctacaggaaa gaaaaggaaa atctcatcaa aagttaactg atctggagaa      6060
aagcacttat ttagaagtca gacacctgag tgctgatggc actctgtcat taatttgttg      6120
tgtgaaactg gctaagtctg gaggactctt tctcaaatcc agcccagacc tttcccagtt      6180
ttctttgaat gtggttgatt aagcagtctc tagagtctct tcagttctaa cactctatga      6240
ttccatttta aattaaaaat gtcactagtc atataatgag ggttatcttc ttgtatttac      6300
ttcatcacat ttatcatgtt gattcataca gatttattct cccaaacata tcccactgtc      6360
cttcattatt tccctaccta cttactggta agtacagaag agatgaaatt gcatccaaac      6420
atctaatttt tagctccact ggggcattct ttgattgatg tcctattctc ataagcaagc      6480
gttcaaagcg agttcctttg aaggataaca gtgagattct tctttattat ggtaaaatat      6540
acacaacata aaatttacca ttttaaccat ttttagtgta tagttcagtg ctattaagta      6600
cattcacact gttgggcaac catcataacc atccatctct agaacttttt catcaaccca      6660
aactgaaact ctgtatccat caaacaataa ttccctttct tctctaccct catccctgc       6720
caaccactat tctacctcct gtgaactgga ctcttttagg catctcatct aagtggaatc      6780
atacaatatc tgtccttatg tgtttggctt acttcactta gcataatgtt atcagtggcg      6840
caggcttcct ccatgctgta gcatgtgcca gaatctcatt ctttttaaag gctgagtaat      6900
attcaattgt atgtatatac cacattttgt ttattgattc atctatcaat gaacattggg      6960
ttgcttgcac ctttttttgg ttattgtgaa taacgctgct atgaacatga ctgtacaaac      7020
atttgtttga gtctctgctt tcaattttt ttggtatata cctgaaagtg gagctgctgg      7080
atgaaggaaa tataaaatgt acaagggtta caatttctcc acatcctaac acttattatt      7140
ttatgggttt ttttttaaag taatagccat cctaatggat atgaagtgaa aaatgagatt      7200
tttttaaagt atgctctcat acactatgac ctctaccaac ctaaaccaat acaaaaataa      7260
gcatgtagtc agagaaccag tgacaggcct agaacacata attacacgca acacagcata      7320
tataaggcaa agttataaaa ctggaatcaa aggacctgga cttgagtagc agctgccata      7380
atttgtatga ccttagaaat tttcttaact cctctaagtt tcatctacct tatctggaaa      7440
atgaaaatga caatgtatgt tctttgcagg actgtaaaac gattgtcata ggtaaaagca      7500
cttagaaaac gacatataac aaaaatatta gctgtgatac acaacagcgt attaatttc       7560
ttttttttctt tttctatttt ctaatttta ttttttgag atggagtctt gctgtgtcac       7620
ccaggctgga gtgcaatggc gcaatctcga ctcacggccc aggttcaagc gattctcctg      7680
cctcaacctc ccgagtagct gggattacag gcgcctgcca tcacacctag ctaattttg       7740
tattttagt agagaccatg ttggccaggc tggtctcgaa ctcttgacct caggtaatct       7800
acccaccttg gcctcccaaa gtgttgggat tacaggcatg agccacctcg cctggcctct      7860
ttttaaattt ttttttgag atggggtctc actctgtcac ctaggctgca gtgcaactga      7920
gtgatcaagg ctcactacag ccttcacctc ctgggctcaa atgattctcc cacctcagcc      7980
tcccgagtgg ctgggactat aggcatgcac caccacagct ggctaatttt ttttgttgtt      8040
gttgttgacg aagctggtct tgaattcctg ggctcaaacg atcctcccgc cttggcctcc      8100
tgaagtgctg ggattacagg tgagataatt ttcaacatat gtgtctcaag aattttaata      8160
attgggctgc atattatttt gtgtgtaaaa tttgttgtgc tgttgatcct catggatgtt      8220
ccataaaagt atctttcttt ctttctttt ttttttttt acagagtctc gcactgtcgc       8280
ccaggctgga gtgcagtggt gtgatctcgg ctcactgcaa cctttacctc ctgtgttcat      8340
gccattctcc tgcctcagcc tcccgagtag ctgggactgc aggcatgcac caccacgctt      8400
ggctgatttt tgtactttta gtagagacag ggtttcacca tgttggccag gctggtctcg      8460
agctcctgac ctcaagtgat ccacctgctt tggcctccca aaatgctggg attacaggca      8520
tgagccacca tacctggcct ctttttttt tttttttt gagatagaat ttcactctgt       8580
cacccaggct ggagtggtagt ggcatgatct cagctcactg caacctccac ctgccaggtt      8640
caagagattc tccttcctca gcttctcaag tagctgggac tacagttgtg cagtaccatg      8700
cctggttaat tttgtattc ttgagtagag ataggatttt gccatgttgc ccagcctggt       8760
cttgaactcc tgagctcagg caaccaccc accttagcct cccaaagtgc tggattacag       8820
gcatgaacca ttgtatctct taacatgcca aaagtatctc ttaacatgaa atcttataac      8880
aaactttat tttcctttct caaaatttca taaatattca caacaaccct gagaagcagt       8940
tgttatgcca ttttatataaa tgaagaaaat gaggcctaga aaagtgaagt gagtaaatga      9000
agttcaaaaa gcaaagtcag ggctggatac aatggtgtgg acctgtagac ccagccaatc      9060
```

                                    2858

```
aagaggatga ggcaggagga ttgcttgagc ccgggagttc ggggccagcc tgggtaacag    9120
agagacactc tcaatctctt aaaaaaaaaa aaaaaaaaaa aagaataga aaacccaagg    9180
acatgaatcc agacctttct gactctagcc cgtggtcttt gtaccatgaa atctagtcaa    9240
agaagacatc atagagggga aacaggaaac aatgtttggt tgaaatcgat tggtagaaac    9300
ctaaaccaat gaaaacctaa accagtgaaa agtcaaaaaa aaaaaaaaa aggttttccg    9360
taataattat tagattttca gacatgagta caaggtcatg gttaacaaga ctgccaccca    9420
taaaatagtt tctacaatgt agttaaccca ccagcaaatg aacttacata ttgaaccct    9480
gtcaaagatt aagatatccc tgaacagggc caagtcatac caacctgttt tctgtaaaac    9540
ctgttttcct tcaacattgg atcccaagat tccaactgtg tctacagcta caccaatcat    9600
agtggggtcc tgactttcta tcatttcaaa gactttttcc acaaagatag gataacgctc    9660
acagatctgt tgaggactat ccatgacagc caggtttcca aaaaacttca cgaatcc      9717
```

<210> 5939
<211> 6490
<212> DNA
<213> Homo sapiens

<400> 5939

```
aagttatata ccttgaaagt ccctgccatg acacttatta gaccagattt tttgatatgt      60
tgttaagtca tcctgacccc tgttatgtac aaactcaatc tttgtgtggt tgatggtcta     120
catgagatat gtcaagtgtt tgtcaatgga tttggtccat agtaaatgtt cactaagagg     180
aagaggcagt atttaggaac atatattcta tgttaaccag ctagggttga aatgttgact     240
tctcttattt gctatgcgat cccgtgcaag ttcctgaatt ttgctgtgcc ttggttttgt     300
tatataactc ctgaaagtgt gacgatggca catgagtttc atacatgaaa cctcttagaa     360
aatgcttggg acacataaaa actcagtact gtttagctac tattacttcc aagatataac     420
cgagtgacaa aaggggagta caactaatcc tcagaaaatc agattaatat tctggctttg     480
cgacctgtac aaaagtactt aatttcccag tttagtgcct ttgtctgtga aatgatacgt     540
aactttttatg gctattatga tgataaagta agaaatgcat gccaagtgcc taacataaaa     600
tcaatgctaa gaaatggtag ctattattag taataatgat aaagaatttt gcaaaaattt     660
ccctttaaat cctaggcgtt ggtcatattg aattacttgt agtttctcaa acatgttctc     720
ttgttttcat gtgtacctgc tgtcttgctt tgctactcca ctgtattctt cacttgattg     780
cctcctacta gttcttcaag atgcaggtgt ttccttccct ggaaaacatt tcctaaagtc     840
aggggacgtg ttttctgttt tcctctatta ttgtacttct tatactctct aattttctat     900
tgacctattt tcttccaata taagacactt tcttcttgtg tgattttcag ataagctact     960
aaagtcttgg tttcctcatc tgtgaaacag ggatgtaaaa attaaatgag atgcacttgg    1020
cacttaggcc aatgtctagc accttcccca atcccaagaa cataataggc agtcaacagg    1080
tgtttactta tgaaatgaaa ataatgattt acaaatttta ttcaatctaa aaaaaaaatc    1140
agaatgtgta gaccatacat aggagagagg gcatccccccc aaaatctgat gttaagtgaa    1200
taaaatcaat gtcatgaagc agaatggtgg ttgccagcag gctgggaaaa gagggaatag    1260
acagttattg tttaatgaat acagtttcaa ttgtataaga tgaaaatatt ctgaagatgg    1320
atggtggtga tggttgtaca acttatgaac atatgtaata tactgaactg tacacttaaa    1380
atagttatga caaatttttat tgtatatatt gcaccacatt gaaaaaaaat caacatcatg    1440
aatgagatta aaacaaaggt cattttaaga gaatatttct caggccagga aagacctggt    1500
tatagcctaa ttagtagtga tattaacagt aggggactag tcagcatgga aacacacaca    1560
aaaaacagag tcacgttgcc aggggagatg atcaatctgg ggactagata attccagtca    1620
ctttaaaata attttgttac aaagcagggg tggtttatca acttcaccac ggcctaaaag    1680
aaatatgctc atgcataaac ctctgaacag gtgatttggt gtgcagagtg ctttggcttt    1740
gctgtttaga gagaagaaca ctggaaaaca ggtgggtgta ggtgttgtca atgaaaagaa    1800
agattatcct ttgtaaatta atgagatggt atcctgattt atgcatatgt cccttctgtt    1860
ctgagtctgt ttattaggag taagtttccc tttctctgat caactcaaga ttgactttat    1920
aggtatgaaa aatccaaagc aaaaccctca gcaatcatga cctaccaata aatgaaatga    1980
cagtttagga atccttctga tcccccaaaa ccacaacagg gcaaagttca ttggtaaaca    2040
gcaaaaaaaa ttacatgaac actataaaca ttttttagat attttgtctt tttttcaaag    2100
gaataatagt aacaaaaaaa caagagagct cataaaaagt attctgagta taggaacat    2160
aatcttaata ttccatacta ctcattttc aaagaatata tccaagactt tgaaagtgga    2220
atcagaaatg gaaaaggac caaaaagaaa aaaaagata gtgaagagaa tccagaaata    2280
atttggtggc aggttttat tttattcatt tatttttgag acagagtctt gctgtgttgc    2340
ccaggctggt gtgcagtggc aagatctcag ctcactgcaa cctctgcctc ccaggctcaa    2400
gcgattctcg tgcctcagcc tcctgagtag ctgagattat aggtgtgcgc caccatgcct    2460
ggctgatttt atatttttag tagagacagg gttttgccat attggccagg ctggtcttga    2520
```

```
actcctagac tcaagtgatt tgcccatctt ggcctcccaa agtgctggga attataggtg    2580
ttagccaccg cgcccagccc tgaagcaggc ttttagataa gattgcatgt ccatgaaaat    2640
tttgagggaa gaaaaaaact tccaccctgt tgcaaagatt aaggcagtga aaggaatctg    2700
aaaaacactg gatctattat gaccaagctt gtctgctctt aatgcattcc aaactcctag    2760
ttccactttg catttcaatg tagaaatata acagtgttgg taacaaagta acatctgaca    2820
ttccatgata attcttgggg aaaggaagtc tcttttgtga aatatagatg gagtcaaatg    2880
ccttaggaga agttttggtc aaaacgtggt cctctacatg agctctagaa gaaatcattc    2940
ggctccttct actgctgtcg tggaaacagg tttcacatag tatggccctt cactcaggta    3000
agttctgagc ctcaaataat ttgggttccc aaagatttct gcaattgtct tggaattggc    3060
aagtgctttc actagttcat atttggcatc ctttgaagct ttgtcatgct ccacagaccg    3120
gtccaccaca tattctacaa aacctggact gttaaacata agtttctgag cccagggttg    3180
gtttgcaatg gcctgaaatg gaaggcagaa agaatacaat tcccctgagt ggaagttgtt    3240
tgttaatggg atggcacaat atttacaaag aaatctggca acatgaactt taaaaatgtt    3300
accttttgtc taagtaaatt ccttcctgag aatctaactt aataaaataa tcttaaatat    3360
gaaaaatctt tgtatacaaa aatgttcata atagtgtgaa agttacaata taaatatcta    3420
ataatgggag aatggttaag taaattatgg tatatagcaa taaaaataaa cattaacaat    3480
aatgtttaca aaaaatagga aatgatacag gtaaacctgt tatataaaaa aagcagattc    3540
aaattataaa caatgcatga ttacaacagt ggaaaaataa aaactaaagt agaaaagact    3600
aacctcaaga tactcatata gtgcacaaac attttcaaga atgttcattg tggtatcatt    3660
tgtaagatac tatctaaatc ttcatttata ggagaatgat atattgtggc tattcaatga    3720
aataccaact ttctaactgc ctcttttaac atagacaaat tttaaaaaaa cgtaacattg    3780
aagagaaaaa aaaaaaagc aaaaactgca attacttttg caccaaccta atggaatgat    3840
acaaacagca tgataccact tacaaagttt atgaatatct aaaatactgt gttttatttta    3900
aggatacaca caatatgtag tagaaatatg aaatcattta tgggccctga ctttgtgata    3960
gtgattttat ctaagaacag aggaagggga ataggactgg gcagaggtag caagatacaa    4020
ctatatttga aatatttcac caaaaataaa cacacactaa tacaaaaact aaaaggaaat    4080
acaccaaaag gtagaacttt ctgtgatttt aaaaaattct acttctaagt cttttccaaa    4140
ttttaagatt aagttttttca aaacctatta cgttttaatg aaaaagaagt aacaagttta    4200
tggcctagtt ttttcctctc aaaatgtgtt ccacagacaa gtagcatcag caacacctgc    4260
gagcttgtta gactttcagg atcacaggct ctgcgccaca actactgaat tagaatctac    4320
attttaataa gattcctaag attaatgttt gagaaactgt ggcctgcttc acaaccaagc    4380
atgaaagtag gcagaaataa aaatagttat cccaaccagt aaatagaaaa ttatttctac    4440
aatggaacca gctaagcaca ggataaggta gaagagcaaa accaaaataa actaataatg    4500
aaaatactaa gcaggatcca aaatggccat ctcatacaat gaccatttac aagggtgaag    4560
cagtcttaaa gaaatgtttc tggctaggcg cggtggctca cgcctgtaat cccagcactc    4620
tgggaggccg aggcgggcgg atcacaaggt caggagatcg agaccatcct ggctaacaca    4680
gtgaaacccc gtctctacta gaaatacaaa aagaaattag tcgggcatgg tggtgggcgc    4740
ccgtaggcta gctgctcggg aggctgaggc aggagaatgg cgtgaacccg ggaggtggtg    4800
cttgcagtga gccaagatca cgccactgca ttccagcctg ggcgacagag cgagactctg    4860
tctcaaaaaa aaaaatgttt ctgaagatta taggaatacc tgtatccttc aagacccaga    4920
tcctgtatcg catcctcagg aagccttccc tcttttgtcc ctgccatttt ccttattccc    4980
tcccagtcta ggccatgtat gctgtctgag atcccattat tgatatgatt actaaagcga    5040
ttactatctt gctatgctgg ggctacaaag ataaatcaga tatgcttcct gctctcagcc    5100
aactctactt aataggtaag acaagtcgat aaataaacat ttgcaaaata atataacaaa    5160
tagaacacaa aggtataatc cttaccacag ctgtaattat ataagtaact gtacaattat    5220
atttactgcc tggctccttc aatagacagg aaactacatg aaaggaaggt ctttatatat    5280
tttcttcact gttgtatgcc cttcactgag caaaaacgga aactcaacaa atatttgctg    5340
aataaataaa tgcaacatat gagaaccaac attgtttaac tcaaccttgt caatctgggc    5400
aaagtgtgct gaagacaagg agttagtcct tgacgagtga gtaagaggtt aagaagcaaa    5460
gttaaggaag agtgttagat acggagaccc cagcaaaggt ccagagacac aaaacaaaca    5520
gtttggtacc actggagcat taggtgccag aagccttatt ttctgcacgg gaaataagga    5580
ttaggaagac cagggctagg ttaatagagg atggcagata aaaagtctgg aattaactgt    5640
gtgatcccat agcatcctgt tcaaacctca aacagcacct aatatctttt actgaaacaa    5700
tctgtttaca catctgtctc cttacttagt ctctaaggta gcagaaggta gaaactatac    5760
tatgcacttg tgcatcccca gagatggcac aggctctggc tcactgttaa gtactcaagt    5820
gttgagctgg cagggtccca gaaggaccta tggaagtgaa tacctaccgt aaacactttt    5880
aaggcagcac agtgtagttc agggaagggc tgactactaa tgccacggaa gagctccagt    5940
ggatcccgag ataaagaaga aaaccaggat tctgtcatcc tcagaaggtc atcagtctgc    6000
tgctcaggct acaggaaaga aaaggaaaat ctcatcaaaa gttaactgat ctggagaaaa    6060
gcacttattt agaagtcaga cacctgagtg ctgatggcac tctgtcatta atttgttgtg    6120
tgaaactggc taagtctgga ggactctttc tcaaatccag cccagacctt tcccagtttt    6180
```

2860

```
ctttgaatgt ggttgattaa gcagtctcta gagtctcttc agttctaaca ctctatgatt    6240
ccatttaaa ttaaaaatgt cactagtcat ataatgaggg ttatcttctt gtatttactt      6300
catcacattt atcatgttga ttcatacaga tttattctcc caaacatatc ccactgtcct      6360
tcattatttc cctacctact tactggtaag tacagaagag atgaaattgc atccaaacat      6420
ctaattttta gctccactgg ggcattcttt gattgatgtc ctattctcat aagcaagcgt      6480
tcaaagcgag                                                            6490


<210> 5940
<211> 353
<212> DNA
<213> Homo sapiens

<400> 5940
tacattgtgg aaaaaaagtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgcttacata      60
tctataacca agaaaaatgt aaccaagtct tattttgctt tataattagt ggactttaa      120
aaatcattct atggtactgt tatgactcag tgatggcagc agtgactcag tgatggtggt      180
gaatgctcag aattaaaagg aaaaccttaa ataggggaat ttttgtaata aaatgttatt      240
cttggctggg cgcggcagct catgcctgta atcccagcac tttgggaggc tgaggcaggc      300
atatcacctg aggttgggca ttcgagacca gcctggccaa cgcggtaaaa ccc            353


<210> 5941
<211> 339
<212> DNA
<213> Homo sapiens

<400> 5941
aaaaatgaga ttttttaaa gtatgctctc atacactatg acctctacca acctaaacca       60
atacaaaaat aagcatgtag tcagagaacc agtgacaggc ctagaacaca taattacacg      120
caacacagca tatataaggc aaagttataa aactggaatc taaggacctg gacttgagta      180
gcagctgcca taatttgtat gaccttagaa attttcttaa ctcctctaag tttcatctac      240
cttatctgga aaatgaaaat gtcaatgtat gttctttgca ggactgtgga ccattgtcat      300
aggattaagc acctagttat cgacatataa caaaattat                            339


<210> 5942
<211> 353
<212> DNA
<213> Homo sapiens

<400> 5942
tacattgtgg aaaaaaagtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgcttacata      60
tctataacca agaaaaatgt aaccaagtct tattttgctt tataattagt ggactttaa      120
aaatcattct atggtactgt tatgactcag tgatggcagc agtgactcag tgatggtggt      180
gaatgctcag aattaaaagg aaaaccttaa ataggggaat ttttgtaata aaatgttatt      240
cttggctggg cgcggcagct catgcctgta atcccagcac tttgggaggc tgaggcaggc      300
atatcacctg aggttgggca ttcgagacca gcctggccaa cgcggtaaaa ccc            353


<210> 5943
<211> 9717
<212> DNA
<213> Homo sapiens

<400> 5943
aagttatata ccttgaaagt ccctgccatg acacttatta gaccagattt tttgatatgt      60
tgttaagtca tcctgaccct gtttatgtac aaactcaatc tttgtgtggt tgatggtcta      120
catgagatat gtcaagtgtt tgtcaatgga tttggtccat agtaaatgtt cactaagagg      180
aagaggcagt atttaggaac atatattcta tgttaaacag cctaggttga aatgttgact      240
tctcttattt gctatgcgat cccgtgcaag ttcctgaatt ttgctgtgcc ttggtttttgt     300
```

```
tatataactc ctggaagtgt gacgatggcc acatgagttc atacatgaaa acctcttaga    360
aaatgcttgg gacacattaa aaactcagta actgttagct actattacct tcaaaatata    420
accaagtgac aaaaggggag tacaactaat cctcagaaaa tcagattaat attctggctt    480
tgcgacctgt acaaagtact taatttccca gtttagtgcc tttgtctgtg aaatgatacg    540
taactttat ggctattatg atgataaagt aagaaatgca tgccaagtgc ctaacataaa    600
atcaatgcta agaaatggta gctattatta gtaataatga taaagaattt tgcaaaaatt    660
tccctttaaa tcctaggcgt tggtcatatt gaattacttg tagtttctca aacatgttct    720
cttgttttca tgtgtacctg ctgtcttgct ttgctactcc actgtattct tcacttgatt    780
gcctcctact agttcttcaa gatgcaggtg tttccttccc tggaaaacat ttcctaaagt    840
caggggacgt gttttctgtt ttcctctatt attgtacttc ttatactctc taattttcta    900
ttgacctatt ttcttccaat ataagacact ttcttcttgt gtgattttca gataagctac    960
taaagtcttg gtttcctcat ctgtgaaaca gggatgtaaa aattaaatga gatgcacttg   1020
gcacttaggc caatgtctag caccttcccc aatcccaaga acataatagg cagtcaacag   1080
gtgtttactt atgaaatgaa aataatgatt tacaaatttt attcaatcta aaaaaaaaat   1140
cagaatgtgt agaccataca taggagagag ggcatccccc caaaatctga tgttaagtga   1200
ataaaatcaa tgtcatgaag cagaatggtg gttgccagag gctggggaaa agagggaata   1260
gacagttatt gtttaatgaa tacagtttca attgtataag atgaaaataa ttctgaagat   1320
ggatggtggt gatggttgta caacttatga acatatgtaa tatactgaac tgtacactta   1380
aaatagttat gacaaatttt attgtatata ttgcaccaca ttgaaaaaaa atcaacatca   1440
tgaatgagat taaaacaaag gtcattttaa gagaatattt ctcaggccag gaaagacctg   1500
gttatagcct aattagtagt gatattaaca gtaggggact agtcagcatg gaaacacaca   1560
caaaaaacag agtcacgttg ccaggggaga tgatcaatct ggggactaga taattccagt   1620
cactttaaaa taattttgtt acaaagcagg ggtggtttat caacttcacc acggcctaaa   1680
agaaatatgc tcatgcataa acctctgaac aggtgatttg gtgtgcagag tgctttggct   1740
ttgctgttta gagagaagaa cactggaaaa caggtgggtg taggtgttgt caatgaaaag   1800
aaagattatc ctttgtaaat taatgagatg gtatcctgat ttatgcatat gtcccttctg   1860
ttctgagtct gtttattagg agtaagtttc cctttctctg atcaactcaa gattgacttt   1920
ataggtatga aaaatccaaa gcaaaaccct cagcaatcat gacctaccaa taaatgaaat   1980
gacagtttag gaatccttct gatcccccaa aaccacaaca gggcaaagtt cattggtaaa   2040
cagcaaaaaa aattacatga acactataaa cattttttag atattttgtc ttttttttcaa   2100
aggaataata gtaacaaaaa aacaagagag ctcataaaaa gtattctgag tataaggaac   2160
ataatcttaa tattccatac tactcatttt tcaaagaata tatccaagac tttgaaagtg   2220
gaatcagaaa tggaaaaagg accaaaaaga aaaaaaaga tagtgaagag aatccagaaa   2280
taatttggtg gcaggttttt attttattca tttattttg agacagagtc ttgctgtgtt   2340
gcccaggctg gtgtgcagtg gcaagatctc agctcactgc aacctctgcc tcccaggctc   2400
aagcgattct cgtgcctcag cctcctgagt agctgagatt ataggtgtgc gccaccatgc   2460
ctggctgatt ttatattttt agtagagaca gggttttgcc atattggcca ggctggtctt   2520
gaactcctag actcaagtga tttgcccatc ttggcctccc aaagtgctgg gaattatagg   2580
tgttagccac cgcgcccagc cctgaagcag gcttttagat aagattgcat gtccatgaaa   2640
attttgaggg aagaaaaaaa cttccaccct gttgcaaaga ttaaggcagt gaaaggaatc   2700
tgaaaaacac tggatctatt atgaccaagc ttgtctgctc ttaatgcatt ccaaactcct   2760
agttccactt tgcatttcaa tgtagaaata taacagtgtt ggtaacaaag taacatctga   2820
cattccatga taattcttgg ggaaaggaag tctcttttgt gaaatataga tggagtcaaa   2880
tgccttagga gaagttttgg tcaaaacgtg gtcctctaca tgagctctag aagaaatcat   2940
tcggctcctt ctactgctgt cgtggaaaca ggtttcacat agtatggccc ttcactcagg   3000
taagttctga gcctcaaata atttgggttc ccaaagattt ctgcaattgt cttggaattg   3060
gcaagtgctt tcactagttc atatttggca tcctttgaag ctttgtcatg ctccacagac   3120
cggtccacca catattctac aaaacctgga ctgttaaaca taagtttctg agcccagggt   3180
tggtttgcaa tggcctgaaa tggaaggcag aaagaataca attcccctga gtggaagttg   3240
tttgttaatg ggatggcaca atatttacaa agaaatctgg caacatgaac tttaaaaatg   3300
ttaccttttg tctaagtaaa ttccttcctg agaatctaac ttaataaaat aatcttaaat   3360
atgaaaaatc tttgtataca aaaatgttca taatagtgtg aaagttacaa tataaatatc   3420
taataatggg agaatggtta agtaaattat ggtatatagc aataaaaata aacattaaca   3480
ataatgttta caaaaaatag gaaatgatac aggtaaacct gttatataaa aaaagcagat   3540
tcaaattata aacaatgcat gattacaaca gtggaaaaat aaaaactaaa gtagaaaaga   3600
ctaacctcaa gatactcata tagtgcacaa acattttcaa gaatgttcat tgtggtatca   3660
tttgtaagat actatctaaa tcttcattta taggagaatg atatattgtg gctattcaat   3720
gaaataccaa ctttctaact gcctctttta acatagacaa attttaaaaa aacgtaacat   3780
tgaagagaaa aaaaaaaaaa gcaaaaactg caattacttt tgcaccaacc taatggaatg   3840
atacaaacag catgatacca cttacaaagt ttatgaatat ctaaaatact gtgtttattt   3900
taaggataca cacaatatgt agtagaaata tgaaatcatt tatgggccct gactttgtga   3960
```

2862

```
tagtgatttt atctaagaac agaggaaggg gaataggact gggcagaggt agcaagatac   4020
aactatattt gaaatatttc accaaaaata aacacacact aatacaaaaa ctaaaaggaa   4080
atacaccaaa aggtagaact ttctgtgatt ttaaaaaatt ctacttctaa gtcttttcca   4140
aattttaaga ttaagttttt caaaacctat tacgttttaa tgaaaaagaa gtaacaagtt   4200
tatggcctag ttttttcctc tcaaaatgtg ttccacagac aagtagcatc agcaacacct   4260
gcgagcttgt tagactttca ggatcccagg ctctgcccca caactactga attagaatct   4320
acattttaat aagattccta agattaatgt ttgagaaact ttggcctgct tcacaaccaa   4380
gcatgaaagt aggcagaaat aaaaatagtt atcccaacca gtaaatagaa aattatttct   4440
acaatggaac cagctaagca caggataagg tagaagagca aaaccaaaat aaactaataa   4500
tgaaaatact aagcaggatc caaaatggcc atctcataca atgaccattt acaagggtga   4560
agcagtctta aagaaatgtt tctggctagg cgcggtggct cacgcctgta atcccagcac   4620
tctgggaggc cgaggcgggc ggatcacaag gtcaggagat cgagaccatc ctggctaaca   4680
cagtgaaacc ccgtctctac tagaaataca aaaagaaatt agtcgggcat ggtggtgggc   4740
gcccgtaggc tagctgctcg ggaggctgag gcaggagaat ggcgtgaacc cgggaggtgg   4800
tgcttgcagt gagccaagat cacgccactg cattccagcc tgggcgacag agcgagactc   4860
tgtctcaaaa aaaaaaatgt ttctgaagat tataggaata cctgtatcct tcaagaccca   4920
gatcctgtat cgcatcctca ggaagccttc cctcttttgt ccctgccatt ttccttattc   4980
cctcccagtc taggccatgt atgctgtctg agatcccatt attgatatga ttactaaagc   5040
gattactatc ttgctatgct ggggctacaa agataaatca gatatgcttc ctgctctcag   5100
ccaactctac ttaataggta agacaagtcg ataaataaac atttgcaaaa taatataaca   5160
aatagaacac aaaggtataa tccttaccac agctgtaatt atataagtaa ctgtacaatt   5220
atatttactg cctggctcct tcaatagaca ggaaactaca tgaaaggaag gtctttatat   5280
attttcttca ctgttgtatg cccttcactg agcaaaaacg gaaactcaac aaatatttgc   5340
tgaataaata aatgcaacat atgagaacca acattgttta actcaacctt gtcaatctgg   5400
gcaaagtgtg ctgaagacaa ggagttagtc cttgacgagt gagtaagagg ttaagaagca   5460
aagttaagga agagtgttag atacggagac cccagcaaag gtccagagac acaaaacaaa   5520
cagtttggta ccactggagc attaggtgcc agaagcctta ttttctgcac gggaaataag   5580
gattaggaag accagggcta ggttaataga ggatggcaga taaaaagtct ggaattaact   5640
gtgtgatccc atagcatcct gttcaaacct caaacagcac ctaatatctt ttactgaaac   5700
aatctgttta cacatctgtc tccttactta gtctctaagg tagcagaagg tagaaactat   5760
actatgcact tgtgcatccc cagagatggc acaggctctg gctcactgtt aagtactcaa   5820
gtgttgagct ggcagggtcc cagaaggacc tatggaagtg aataacctacc gtaaacactt   5880
ttaaggcagc acagtgtagt tcagggaagg gctgactact aatgccacgg aagagctcca   5940
gtggatcccg agataaagaa gaaaaccagg attctgtcat cctcagaagg tcatcagtct   6000
gctgctcagg ctacaggaaa gaaaaggaaa atctcatcaa aagttaactg atctggagaa   6060
aagcacttat ttagaagtca gacacctgag tgctgatggc actctgtcat taatttgttg   6120
tgtgaaactg gctaagtctg gaggactctt tctcaaatcc agcccagacc tttcccagtt   6180
ttctttgaat gtggttgatt aagcagtctc tagagtctct tcagttctaa cactctatga   6240
ttccatttta aattaaaaat gtcactagtc atataatgag ggttatcttc ttgtatttac   6300
ttcatcacat ttatcatgtt gattcataca gatttattct cccaaacata tcccactgtc   6360
cttcattatt tccctaccta cttactggta agtacagaag agatgaaatt gcatccaaac   6420
atctaatttt tagctccact ggggcattct ttgattgatg tcctattctc ataagcaagc   6480
gttcaaagcg agttcctttg aaggataaca gtgagattct tctttattat ggtaaaatat   6540
acacaacata aaatttacca ttttaaccat ttttagtgta tagttcagtg ctattaagta   6600
cattcacact gttgggcaac catcataacc atccatctct agaacttttt catcaaccca   6660
aactgaaact ctgtatccat caaacaataa ttcccttttct tctctaccct catcccctgc   6720
caaccactat tctacctcct gtgaactgga ctcttttagg catctcatct aagtggaatc   6780
atacaatatc tgtccttatg tgtttggctt acttcactta gcataatgtt atcagtggcg   6840
caggcttcct ccatgctgta gcatgtgcca gaatctcatt ctttttaaag gctgagtaat   6900
attcaattgt atgtatatac cacattttgt ttattgattc atctatcaat gaacattggg   6960
ttgcttgcac cttttttttgg ttattgtgaa taacgctgct atgaacatga ctgtacaaac   7020
atttgtttga gtctctgctt tcaattttitt ttggtatata cctgaaagtg gagctgctgg   7080
atgaaggaaa tataaaatgt acaagggtta caatttctcc acatcctaac acttattatt   7140
ttatgggttt ttttttaaag taatagccat cctaatggat atgaagtgaa aaatgagatt   7200
tttttaaagt atgctctcat acactatgac ctctaccaac ctaaaccaat acaaaaataa   7260
gcatgtagtc agagaaccag tgacaggcct agaacacata attacacgca acacagcata   7320
tataaggcaa agttataaaa ctggaatcaa aggacctgga cttgagtagc agctgccata   7380
atttgtatga ccttagaaat tttcttaact cctctaagtt tcatctacct tatctggaaa   7440
atgaaaatga caatgtatgt tctttgcagg actgtaaaac gattgtcata ggtaaaagca   7500
cttagaaaac gacatataac aaaaatatta gctgtgatac acaacagcgt attaattttc   7560
ttttttttctt tttctatttt ctaatttta tttttttgag atggagtctt gctgtgtcac   7620
```

```
ccaggctgga gtgcaatggc gcaatctcga ctcacggccc aggttcaagc gattctcctg    7680
cctcaacctc ccgagtagct gggattacag gcgcctgcca tcacacctag ctaatttttg    7740
tatttttagt agagaccatg ttggccaggc tggtctcgaa ctcttgacct caggtaatct    7800
acccaccttg gcctcccaaa gtgttgggat tacaggcatg agccacctcg cctggcctct    7860
ttttaaattt ttttttttgag atggggtctc actctgtcac ctaggctgca gtgcaactga    7920
gtgatcaagg ctcactacag ccttcacctc ctgggctcaa atgattctcc cacctcagcc    7980
tcccgagtgg ctgggactat aggcatgcac caccacagct ggctaatttt ttttgttgtt    8040
gttgttgacg aagctggtct tgaattcctg ggctcaaacg atcctcccgc cttggcctcc    8100
tgaagtgctg ggattacagg tgagataatt ttcaacatat gtgtctcaag aattttaata    8160
attgggctgc atattatttt gtgtgtaaaa tttgttgtgc tgttgatcct catggatgtt    8220
ccataaaagt atctttcttt ctttcttttt ttttttttt acagagtctc gcactgtcgc    8280
ccaggctgga gtgcagtggt gtgatctcgg ctcactgcaa cctttacctc ctgtgttcat    8340
gccattctcc tgcctcagcc tcccgagtag ctgggactgc aggcatgcac caccacgctt    8400
ggctgatttt tgtactttta gtagagacag ggtttcacca tgttggccag gctggtctcg    8460
agctcctgac ctcaagtgat ccacctgctt tggcctccca aaatgctggg attacaggca    8520
tgagccacca tacctggcct ctttttttttt ttttttttt gagatagaat ttcactctgt    8580
cacccaggct ggagtgtagt ggcatgatct cagctcactg caacctccac ctgccaggtt    8640
caagagattc tccttcctca gcttctcaag tagctgggac tacagttgtg cagtaccatg    8700
cctggttaat ttttgtattc ttgagtagag ataggatttt gccatgttgc ccagcctggt    8760
cttgaactcc tgagctcagg caacccaccc accttagcct cccaaagtgc tggattacag    8820
gcatgaacca ttgtatctct taacatgcca aaagtatctc ttaacatgaa atcttataac    8880
aaacttttat tttcctttct caaaatttca taaatattca caacaaccct gagaagcagt    8940
tgttatgcca tttttataaa tgaagaaaat gaggcctaga aaagtgaagt gagtaaatga    9000
agttcaaaaa gcaaagtcag ggctggatac aatggtgtgg acctgtagac ccagccaatc    9060
aagaggatga ggcaggagga ttgcttgagc ccgggagttc ggggccagcc tgggtaacag    9120
agagacactc tcaatctctt aaaaaaaaaa aaaaaaaaaa aaagaataga aaacccaagg    9180
acatgaatcc agacctttct gactctagcc cgtggtcttt gtaccatgaa atctagtcaa    9240
agaagacatc atagagggga aacaggaaac aatgtttggt tgaaatcgat tggtagaaac    9300
ctaaaccaat gaaaacctaa accagtgaaa agtcaaaaaa aaaaaaaaaa aggttttccg    9360
taataattat tagatttttca gacatgagta caaggtcatg gttaacaaga ctgccaccca    9420
taaaatagtt tctacaatgt agttaaccca ccagcaaatg aacttacata ttgaacccct    9480
gtcaaagatt aagatatccc tgaacagggc caagtcatac caacctgttt tctgtaaaac    9540
ctgtttttcct tcaacattgg atcccaagat tccaactgtg tctacagcta caccaatcat    9600
agtggggtcc tgactttcta tcatttcaaa gacttttttcc acaaagatag gataacgctc    9660
acagatctgt tgaggactat ccatgacagc caggtttcca aaaaacttca cgaatcc       9717
```

<210> 5944
<211> 6490
<212> DNA
<213> Homo sapiens

<400> 5944
```
aagttatata ccttgaaagt ccctgccatg acacttatta gaccagattt tttgatatgt      60
tgttaagtca tcctgacccc tgttatgtac aaactcaatc tttgtgtggt tgatggtcta     120
catgagatat gtcaagtgtt tgtcaatgga tttggtccat agtaaatgtt cactaagagg     180
aagaggcagt atttaggaac atatattcta tgttaaccag ctagggttga aatgttgact     240
tctcttattt gctatgcgat cccgtgcaag ttcctgaatt ttgctgtgcc ttggtttttgt    300
tatataactc ctgaaagtgt gacgatggca catgagtttc atacatgaaa cctcttagaa     360
aatgcttggg acacataaaa actcagtact gtttagctac tattacttcc aagatataac     420
cgagtgacaa aaggggagta caactaatcc tcagaaaatc agattaatat tctggctttg     480
cgacctgtac aaaagtactt aatttcccag tttagtgcct ttgtctgtga aatgatacgt     540
aacttttatg gctattatga tgataaagta agaaatgcat gccaagtgcc taacataaaa     600
tcaatgctaa gaaatggtag ctattattag taataatgat aaagaatttt gcaaaaattt     660
cccttttaaat cctaggcgtt ggtcatattg aattacttgt agttctcaa acatgttctc     720
ttgtttttcat gtgtacctgc tgtcttgctt tgctactcca ctgtattctt cacttgattg    780
cctcctacta gttcttcaag atgcaggtgt ttccttccct ggaaacatt tcctaaagtc      840
aggggacgtg ttttctgttt tcctctatta ttgtacttct tatactctct aattttctat     900
tgacctattt tcttccaata taagacactt tcttcttgtg tgattttcag ataagctact     960
aaagtcttgg tttcctcatc tgtgaaacag ggatgtaaaa attaaatgag atgcacttgg    1020
cacttaggcc aatgtctagc accttcccca atcccaagaa cataataggc agtcaacagg    1080
```

```
tgtttactta tgaaatgaaa ataatgattt acaaatttta ttcaatctaa aaaaaaaatc   1140
agaatgtgta gaccatacat aggagagagg gcatcccccc aaaatctgat gttaagtgaa   1200
taaaatcaat gtcatgaagc agaatggtgg ttgccagcag gctgggaaaa gagggaatag   1260
acagttattg tttaatgaat acagtttcaa ttgtataaga tgaaatatt ctgaagatgg     1320
atggtggtga tggttgtaca acttatgaac atatgtaata tactgaactg tacacttaaa   1380
atagttatga caaattttat tgtatatatt gcaccacatt gaaaaaaat caacatcatg     1440
aatgagatta aaacaaaggt cattttaaga gaatatttct caggccagga aagacctggt   1500
tatagcctaa ttagtagtga tattaacagt aggggactag tcagcatgga aacacacaca   1560
aaaaacagag tcacgttgcc aggggagatg atcaatctgg ggactagata attccagtca   1620
ctttaaaata attttgttac aaagcagggg tggtttatca acttcaccac ggcctaaaag   1680
aaatatgctc atgcataaac ctctgaacag gtgatttggt gtgcagagtg ctttggcttt   1740
gctgtttaga gagaagaaca ctggaaaaca ggtgggtgta ggtgttgtca atgaaaagaa   1800
agattatcct ttgtaaatta atgagatggt atcctgattt atgcatatgt cccttctgtt   1860
ctgagtctgt ttattaggag taagtttccc tttctctgat caactcaaga ttgactttat   1920
aggtatgaaa aatccaaagc aaaaccctca gcaatcatga cctaccaata aatgaaatga   1980
cagtttagga atccttctga tcccccaaaa ccacaacagg gcaaagttca ttggtaaaca   2040
gcaaaaaaaa ttacatgaac actataaaca ttttttagat attttgtctt tttttcaaag   2100
gaataatagt aacaaaaaaa caagagagct cataaaaagt attctgagta taggaacat     2160
aatcttaata ttccatacta ctcattttc aaagaatata tccaagactt tgaaagtgga    2220
atcagaaatg gaaaaaggac caaaaagaaa aaaaaagata gtgaagagaa tccagaaata   2280
atttggtggc aggttttat tttattcatt tattttgag acagagtctt gctgtgttgc      2340
ccaggctggt gtgcagtggc aagatctcag ctcactgcaa cctctgcctc ccaggctcaa   2400
gcgattctcg tgcctcagcc tcctgagtag ctgagattat aggtgtgcgc caccatgcct   2460
ggctgatttt atatttttag tagagacagg gttttgccat attggccagg ctggtcttga   2520
actcctagac tcaagtgatt tgcccatctt ggcctcccaa agtgctggga attataggtg   2580
ttagccaccg cgcccagccc tgaagcaggc ttttagataa gattgcatgt ccatgaaaat   2640
tttgagggaa gaaaaaaact tccaccctgt tgcaaagatt aaggcagtga aaggaatctg   2700
aaaaacactg gatctattat gaccaagctt gtctgctctt aatgcattcc aaactcctag   2760
ttccactttg catttcaatg tagaaatata acagtgttgg taacaaagta acatctgaca   2820
ttccatgata attcttgggg aaaggaagtc tcttttgtga aatatagatg gagtcaaatg   2880
ccttaggaga agttttggtc aaaacgtggt cctctacatg agctctagaa gaaatcattc   2940
ggctccttct actgctgtcg tggaaacagg tttcacatag tatggccctt cactcaggta   3000
agttctgagc ctcaaataat ttgggttccc aaagatttct gcaattgtct tggaattggc   3060
aagtgctttc actagttcat atttggcatc ctttgaagct ttgtcatgct ccacagaccg   3120
gtccaccaca tattctacaa aacctggact gttaaacata agttctgag cccagggttg    3180
gtttgcaatg gcctgaaatg gaaggcagaa agaatacaat tcccctgagt ggaagttgtt   3240
tgttaatggg atggcacaat atttacaaag aaatctggca acatgaactt taaaaatgtt   3300
acctttgtc taagtaaatt ccttcctgag aatctaactt aataaaataa tcttaaatat    3360
gaaaaatctt tgtatacaaa aatgttcata atagtgtgaa agttacaata taaatatcta   3420
ataatgggag aatggttaag taaattatgg tatatagcaa taaaaataaa cattaacaat   3480
aatgtttaca aaaaatagga aatgatacag gtaaacctgt tatataaaaa aagcagattc   3540
aaattataaa caatgcatga ttacaacagt ggaaaaataa aaactaaagt agaaaagact   3600
aacctcaaga tactcatata gtgcacaaac attttcaaga atgttcattg tggtatcatt   3660
tgtaagatac tatctaaatc ttcatttata ggagaatgat atattgtggc tattcaatga   3720
aataccaact ttctaactgc ctctttaac atagacaaat tttaaaaaaa cgtaacattg    3780
aagagaaaaa aaaaaaagc aaaaactgca attacttttg caccaaccta atggaatgat    3840
acaaacagca tgataccact tacaaagttt atgaatatct aaaatactgt gttttatta    3900
aggatacaca caatatgtag tagaaatatg aaatcattta tgggccctga ctttgtgata   3960
gtgattttat ctaagaacag aggaagggga ataggactgg gcagaggtag caagatacaa   4020
ctatatttga aatatttcac caaaaataaa cacacactaa tacaaaaact aaaaggaaat   4080
acaccaaaag gtagaacttt ctgtgatttt aaaaaattct acttctaagt cttttccaaa   4140
ttttaagatt aagttttca aaacctatta cgttttaatg aaaaagaagt aacaagttta   4200
tggcctagtt ttttcctctc aaaatgtgtt ccacagacaa gtagcatcag caacacctgc   4260
gagcttgtta gactttcagg atcacaggct ctgcgccaca actactgaat tagaatctac   4320
attttaataa gattcctaag attaatgttt gagaaactgt ggcctgcttc acaaccaagc   4380
atgaaagtag gcagaaataa aaatagttat cccaaccagt aaatagaaaa ttatttctac   4440
aatggaacca gctaagcaca ggataaggta gaagagcaaa accaaaataa actaataatg   4500
aaaatactaa gcaggatcca aaatggccat ctcatacaat gaccatttac aagggtgaag   4560
cagtcttaaa gaaatgtttc tggctaggcg cggtggctca cgcctgtaat cccagcactc   4620
tgggaggccg aggcgggcgg atcacaaggt caggagatcg agaccatcct ggctaacaca   4680
gtgaaacccc gtctctacta gaaatacaaa aagaaattag tcgggcatgg tggtgggcgc   4740
```

2865

```
ccgtaggcta gctgctcggg aggctgaggc aggagaatgg cgtgaacccg ggaggtggtg    4800
cttgcagtga gccaagatca cgccactgca ttccagcctg ggcgacagag cgagactctg    4860
tctcaaaaaa aaaaatgttt ctgaagatta taggaatacc tgtatccttc aagacccaga    4920
tcctgtatcg catcctcagg aagccttccc tcttttgtcc ctgccatttt ccttattccc    4980
tcccagtcta ggccatgtat gctgtctgag atcccattat tgatatgatt actaaagcga    5040
ttactatctt gctatgctgg ggctacaaag ataaatcaga tatgcttcct gctctcagcc    5100
aactctactt aataggtaag acaagtcgat aaataaacat ttgcaaaata atataacaaa    5160
tagaacacaa aggtataatc cttaccacag ctgtaattat ataagtaact gtacaattat    5220
atttactgcc tggctccttc aatagacagg aaactacatg aaaggaaggt ctttatatat    5280
tttcttcact gttgtatgcc cttcactgag caaaaacgga aactcaacaa atatttgctg    5340
aataaataaa tgcaacatat gagaaccaac attgtttaac tcaaccttgt caatctgggc    5400
aaagtgtgct gaagacaagg agttagtcct tgacgagtga gtaagaggtt aagaagcaaa    5460
gttaaggaag agtgttagat acggagaccc cagcaaaggt ccagagacac aaaacaaaca    5520
gtttggtacc actggagcat taggtgccag aagccttatt ttctgcacgg gaaataagga    5580
ttaggaagac cagggctagg ttaatagagg atggcagata aaaagtctgg aattaactgt    5640
gtgatcccat agcatcctgt tcaaacctca aacagcacct aatatctttt actgaaacaa    5700
tctgtttaca catctgtctc cttacttagt ctctaaggta gcagaaggta gaaactatac    5760
tatgcacttg tgcatcccca gagatggcac aggctctggc tcactgttaa gtactcaagt    5820
gttgagctgg cagggtccca gaaggaccta tggaagtgaa tacctaccgt aaacactttt    5880
aaggcagcac agtgtagttc agggaagggc tgactactaa tgccacggaa gagctccagt    5940
ggatcccgag ataaagaaga aaaccaggat tctgtcatcc tcagaaggtc atcagtctgc    6000
tgctcaggct acaggaaaga aaaggaaaat ctcatcaaaa gttaactgat ctggagaaaa    6060
gcacttattt agaagtcaga cacctgagtg ctgatggcac tctgtcatta atttgttgtg    6120
tgaaactggc taagtctgga ggactctttc tcaaatccag cccagacctt tcccagtttt    6180
ctttgaatgt ggttgattaa gcagtctcta gagtctcttc agttctaaca ctctatgatt    6240
ccattttaaa ttaaaaatgt cactagtcat ataatgaggg ttatcttctt gtatttactt    6300
catcacattt atcatgttga ttcatacaga tttattctcc caaacatatc ccactgtcct    6360
tcattatttc cctacctact tactggtaag tacagaagag atgaaattgc atccaaacat    6420
ctaatttta gctccactgg ggcattcttt gattgatgtc ctattctcat aagcaagcgt    6480
tcaaagcgag                                                          6490


<210> 5945
<211> 353
<212> DNA
<213> Homo sapiens

<400> 5945
tacattgtgg aaaaaaagtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgcttacata      60
tctataacca agaaaaatgt aaccaagtct tattttgctt tataattagt ggactttaa     120
aaatcattct atggtactgt tatgactcag tgatggcagc agtgactcag tgatggtggt     180
gaatgctcag aattaaaagg aaaaccttaa ataggggaat ttttgtaata aaatgttatt     240
cttggctggg cgcggcagct catgcctgta atcccagcac tttgggaggc tgaggcaggc     300
atatcacctg aggttgggca ttcgagacca gcctggccaa cgcggtaaaa ccc           353


<210> 5946
<211> 339
<212> DNA
<213> Homo sapiens

<400> 5946
aaaaatgaga ttttttaaa gtatgctctc atacactatg acctctacca acctaaacca      60
atacaaaaat aagcatgtag tcagagaacc agtgacaggc ctagaacaca taattacacg     120
caacacagca tatataaggc aaagttataa aactggaatc taaggacctg acttgagta     180
gcagctgcca taatttgtat gaccttagaa attttcttaa ctcctctaag tttcatctac     240
cttatctgga aaatgaaaat gtcaatgtat gttctttgca ggactgtgga ccattgtcat     300
aggattaagc acctagttat cgacatataa caaaattat                          339


<210> 5947
```

2866

<211> 353
<212> DNA
<213> Homo sapiens

<400> 5947
```
tacattgtgg aaaaaaagtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgcttacata      60
tctataacca agaaaaatgt aaccaagtct tattttgctt tataattagt ggacttttaa     120
aaatcattct atggtactgt tatgactcag tgatggcagc agtgactcag tgatggtggt     180
gaatgctcag aattaaaagg aaaaccttaa atagggggaat ttttgtaata aaatgttatt    240
cttggctggg cgcggcagct catgcctgta atcccagcac tttgggaggc tgaggcaggc     300
atatcacctg aggttgggca ttcgagacca gcctggccaa cgcggtaaaa ccc            353
```

<210> 5948
<211> 699
<212> DNA
<213> Homo sapiens

<400> 5948
```
aaacaagctc attgttaatt catgcagttt taatttatgc ataggagaat tatgcaggat      60
aattacctgc agttgaagga aaatgaatag cgtcagatgt ggttaattca cgcatggttt     120
acccttctat ctctctatca gaaaagattt aaagtggtaa ccaatctgaa tgatatgcaa     180
aattgcattg gtttgctaag tagaagtatt ttttttattt gcatcacaaa tagagttctc     240
agatttggac tgactagatt tgaatataat ttccagaaca atagctgtga ttcactgact     300
taactcatat gttatctctt ccagaagtgc ccatttttca aatcagtgca aaagaagcta     360
tcttcatggg ccccatgtta gcctgagtat agtttccttt atgaggataa ttcaatgaga     420
atgataatta tttcctatat caagatttgt gggagattta cggtaatgat cacactactt     480
gttcccacat tgtccctgaa ccttcatgat ccagtggctt ccaaaaactg aaacaaacag     540
ctggaacaaa ttatggggca atgaatggac atcagtggaa atttccttgt gacttttgtc     600
aagcaataga tagctgctaa ggcctctttg aactcacacc tagtaattga gagaaggcta     660
agaggtggtt caagtttact gaaaaaaaaa aaaaaaaaa                            699
```

<210> 5949
<211> 915
<212> DNA
<213> Homo sapiens

<400> 5949
```
caccacaccc agctaatttt tgtatttttt gtagagatgg ggtttcacca tgttggccag      60
gctggtctcg aactcctggg ctcaagcatc tccctgcatc ggtctcccaa agtgctggga     120
ttacaggtgg gagccaccac gcctggccaa gcttctcata caatgaaaca tccaatctaa     180
ataaacatgt tttatattat tataaaagta atagctatca ctaaatagca tttctaatgt     240
gccaggcaca tgtactaatt cattgagtgc tcacaacacc ctgaggtaat tactccattt     300
tatagatgag agaatggagg ctctgaaaaa ttactaagag gcagagcttg gttttaaacc     360
taggccgtct ggcatcagag tctgggctgt gctgcggctg tggatgtaaa tacacagact     420
ccaaattcag agccacagtt cccacagcaa ctgccagttt gtagcatgtt caaaaagccc     480
gagttctccc acataactta gctgagttgt ggctgccaga tcttttggct tagcaactcg     540
aaacagagac tgtccacgta ggctgaggtt ctcagttgat accaaggcgt tgatgagact     600
cttcaggctt ctattataat caagaagaag attttttcaca tcctccatct gaaaggttca     660
ttattccagc tgggtaagct gtgtgtctgc aaagatgccc tatcatcagg aaatgaaatg     720
ggcacttttt ctccaagtaa gcaatgcatg ctgataaata acgccatatc agtggcgtgc     780
cttctccttc ctcttgcaaa cgattgacgc ctcagagatc tgaacaaccc cacaaaaggg     840
gaggaaaatg gagaaaaaac aaacttgaga gaaaaaagga atcattcctt ttctttgtg      900
aggactttg tctga                                                       915
```

<210> 5950
<211> 1956
<212> DNA
<213> Homo sapiens

<400> 5950
```
cactgggagc tgcagaccag agctgttcct atttggccat cttgccagca atcagaccag      60
agttttaaat ggactacaaa ataggtcaaa ctctatttca gaactagagg ctaggaataa     120
tgtccaaact tggttatgaa agtttttttt tttttggtc tggtaggata agagggtttt      180
tactcatctt aagtttgaat taaactttgt aacaaagtta ttgttttttt aaacaatgca     240
tgtatcaaat tatctgtctc attagataac taggtagact tttccaagat ggtttcaaaa     300
tcaaatatat attcaaagat cttccagtgt aaagcaatag gaatgaaaca agccatgaga     360
aagcagaata ttttgagtat attctcatgc ctttctttaa aggagaagcg cctatctaaa     420
cagttacaga aacccaaatt caaagtagat taaacaagaa gtaaatttgt aaactctttt     480
aactgggaga caggaagtag ggagggctcc aggcacaata tcattagcag ttcaatgtga     540
acgaagaccc atgtcctttc caagcctccc tctgccatca gcattgccct ccttcccagg     600
gtcacagatg gctatcaatg gcaaaactgg ggttccgcgt tctcttctcc tcatctggca     660
agagaaaatg ggaaatctct atcccaagct tggattaaaa attattttca ttttgtgtt      720
ccagcaaact tgggtcctat gcccagccat ggaccaaaaa taggcttaat gtgaatgtta     780
tgtgctgatt ggattaaaat aagttctgac tctgaatctg ggaatgtggt caccttcctc     840
agagacaagt tgagaggttg gcttatctga ataaaagcag agaatatgag atgctggaga     900
ggtgttcatt aaggagaaca ttccctgagg tgaattaacg gttagaatta tctatctctg     960
tatttatcta tccacccatc tatcatcatc atcacctcat ctccctcctt tctctctctc    1020
taaatatata catgcgggta tgttgagtgt gtatatattt attttttgt gtgtttatat     1080
ggtgtgtgtg tgtgtgtatt ccaggcagat gtgtgcatat atacccaaac tttcctgatg    1140
accttgaaat taaatgggtc atgtgaagct aaagattata gaacccttg attcctttat      1200
aaacagtatt tctaagataa gatcaacact aatctttcaa attagttgac tgtgtataga    1260
acaacttgtt tatttaaagt catctagtct aatgcaatca aggagtaaat tataaataac    1320
cagttagcat aaatggaaag aaaatagttc ctttctttg aattcatttc atgtttaatt     1380
tttcttgcgc acatatagaa atgaatagaa atattcccat ttcaatatgc aaattcagcc    1440
actatatagt ttgtttcttt ttggtagcta ataataataa atttttaagt aagatctgat    1500
tttgaaatat gaaaagaagt ttatcctttc ctgtttttaat accacctgat acccgtttaa   1560
cttactgtgt ttgattcttg gggcatttta tgttcaaggt tctgtcaaag caatctatta    1620
ttcttgtttt tacctgatgg atcatggaga aaaataatgg attcagttat gagaaacagt    1680
aatagatttt tttaactgcc ataaattct ctccctgtat taaataaaag gatcaggaaa     1740
agataagttg aattttccta caatgagcca gctcttctta aatttacctc ccataaattg    1800
tagcaaagca cttttcatat aatgttttat ttatgtaatt cagttatttg gagatggtgg    1860
tgagggatgt gagtacatca tttcatgttg tatttcaaat ctctttgac agaaacccta     1920
agaatttgca ataaagaaaa ttcaatgttc cattaa                              1956
```

<210> 5951
<211> 1957
<212> DNA
<213> Homo sapiens

<400> 5951
```
cactgggagc tgcagaccag agctgttcct atttggccat cttgccagca atcagaccag      60
agttttaaat ggactacaaa ataggtcaaa ctctatttca gaactagagg ctaggaataa     120
tgtccaaact tggttatgaa agtttttttt tttttttggt ctggtaggat aagagggttt     180
ttactcatct taagtttgaa ttaaactttg taacaaagtt attgttttttt taaacaatgc    240
atgtatcaaa ttatctgtct cattagataa ctaggtagac ttttccaaga tggtttcaaa    300
atcaaatata tattcaaaga tcttccagtg taaagcaata ggaatgaaac aagccatgag     360
aaagcagaat attttgagta tattctcatg cctttcttta aaggagaagc gcctatctaa     420
acagttacag aaacccaaat tcaaagtaga ttaaacaaga agtaaatttg taaactcttt     480
taactgggag acaggaagta gggagggctc caggcacaat atcattagca gttcaatgtg     540
aacgaagacc catgtccttt ccaagcctcc tctgccatc agcattgccc tccttcccag      600
ggtcacagat ggctatcaat ggcaaaactg gggttccgcg ttctcttctc ctcatctggc     660
aagagaaaat gggaaatctc tatcccaagc ttggattaaa aattattttc attttttgtgt    720
tccagcaaac ttgggtccta tgcccagcca tggaccaaaa ataggcttaa tgtgaatgtt    780
atgtgctgat tggattaaaa taagttctga ctctgaatct gggaatgtgg tcaccttcct    840
cagagacaag ttgagaggtt ggcttatctg aataaaagca gagaatatga gatgctggag     900
aggtgttcat taaggagaac attccctgag gtgaattaac ggttagaatt atctatctct     960
gtatttatct atccacccat ctatcatcat catcacctca tctccctcct ttctctctct    1020
ctaaatatat acatgcgggt atgttgagtg tgtatatatt atttttttg tgtgtttata     1080
```
```
                                         2868
```

```
tggtgtgtgt gtgtgtgtat tccaggcaga tgtgtgcata tatacccaaa ctttcctgat      1140
gaccttgaaa ttaaatgggt catgtgaagc taaagattat agaacccctt gattccttta      1200
taaacagtat ttctaagata agatcaacac taatctttca aattagttga ctgtgtatag      1260
aacaacttgt ttatttaaag tcatctagtc taatgcaatc aaggagtaaa ttataaataa      1320
ccagttagca taaatggaaa gaaaatagtt ccttttcttt gaattcattt catgtttaat      1380
ttttcttgcg cacatataga aatgaataga aatattccca tttcaatgtg caaattcagc      1440
cactatatag tttgtttctt tttggtagct aataataata aattttaag taagatctga      1500
ttttgaaata tgaaaagaag tttatccttt cctgttttaa taccacctga tacccgttta      1560
acttactgtg tttgattctt ggggacattt atgttcaagg ttctgtcaaa gcaatctatt      1620
attcttgttt ttacctgatg gatcatggag aaaaataatg gattcagtta tgagaaacag      1680
taatagattt ttttaactgc cataaatttc tctccctgta ttaaataaaa ggatcaggaa      1740
aagataagtt gaattttcct acaatgagcc agctcttctt aaatttacct cccataaatt      1800
gtagcaaagc acttttcata taatgtttta tttatgtaat tcagttattt ggagatggtg      1860
gtgagggatg tgagtacatc atttcatgtt gtatttcaaa tctcttttga cagaaaccct      1920
aagaatttgc aataaagaaa attcaatgtt ccattaa                              1957


<210> 5952
<211> 546
<212> DNA
<213> Homo sapiens

<400> 5952
gatgatcttt acaatttggt atgtttttgc agtggctggt attgattgtt cctctctatg       60
tttagtgctt ccttcaggag ctcttttagg gcaggcctgg tggtaacaaa atctctcagc      120
atttgcttgt ctgtaaagga tttttatttct ccttcgctta tgaaactgag tttggttgga     180
tatgaaattc tgggttgaaa attcttttct ttaagaatgt tgaatattgg cccctactct      240
attctggctt gtaaggtgtc tgcagagaga tcctctgtta gtctgatggg cttcccctttg     300
tggctaacct gacctttctc tctggctgcc cttaacattt tttccttcat ttcaaccttg      360
gtgaatatga cgattatatg tcttggggtt gctctgctcg aggagtatct ttgtggcgtt      420
ctctgtattt ccttaatttg aatgttgacc tgtcttgcta ggttggggat gttctcctgg      480
ataatatcct gaggagtgtt ttccaacttg gttccattct ccccgtcact ttcaggtaca      540
ccaatc                                                                 546


<210> 5953
<211> 1215
<212> DNA
<213> Homo sapiens

<400> 5953
cccccccaca ctcagtaaag aattttccaa cccaaaatat cattagtcct gaggttgaga       60
aaccctgtcc tagcctaact gtgtacctct atagctatgt tttatagttt tagaatatta      120
aaacctcaga tatttatgtg ggtaggtact taaatggcca aaaactttaa ctatgaaatg      180
ttactgtgta gtatattgaa tataggaagt gatgaagatt ataggtattt tattcccatg      240
tttccatcta taaatagcct tctcagattc agaaaacaat acagagaaca tcagaaattt      300
tctaaaatgg gtcactttga aaagaattct ttttctcact attaatgctt tagaagcaag      360
acgcaatttt aaagctttag ttccttttct ttcagtcatt gtcttagttt gggtacaaaa      420
atgtcatttc agtaatgtac tgaaatctta taagtgaata gttgaagcta gtaaaaatga      480
taccagtata aaaatggtac ttgtagtcca tgagcttgaa cccaatgact gattgtttga      540
cttttaaaat aagtaatagc agccatttgg gagtagggggg taggtgggga agatgtactc     600
cgtatcaaat aataatgatg ttgaaataat gatagtaggt atgtattatg gattggagaa      660
gcacttatta cactatctaa cctaatatgt agaacaattc ttgagagttg tatctgtcgt      720
tatttctgaa tgtgaagctc agagaagtga cacagagtaa atggctgatc ttctatattg      780
tagtatattt tgtccttccc tcttccctga ggaacaaagc acgtatcttt agtctctttg      840
atatttattc tgagaccaag ggcttgcttg acctgatgat tttccttcag ctctctgaag      900
gtgctttttc cacaatccaa gtgattctga tacacactaa agttgagaat cactgcacta      960
gatcactttg tgttttctga ttttcaaggt tgatacgtag ctttaataca gctcttctgt     1020
tgacagttat tactttaatt ttgcatttgt tccttgtaag aatggctgga aactgtgtgt     1080
tgacatttga ggatgggtat gcaaggaaaa aatatacttc tgtttactta ctctgacttt     1140
gaaatagtgt tattttctta tatctgaaat aaatgcttct accatagaaa taaatttgcc     1200
```

2869

tatactatct gagaa   1215

<210> 5954
<211> 2687
<212> DNA
<213> Homo sapiens

<400> 5954
agatgaaaag attggattcc gaaatgatgc aaattttgac tggcaaaatg tggcagattt   60
cagggatgca ggtggatcct taactgaggt caaggtggaa gaggaagaaa gggatccgca   120
gagtcctgaa gtaagtatta gcctctgtac cctctttttaa tcttttcaat tctgatgtgg   180
gagattattg ttcaggaact gttaacacat tccaagattt tcaagcttat ttaaaaatag   240
tacataacaa gtcattctgc ttttctcttt acatcgttaa tacttttctt cccacctaaa   300
tataattacc taggttatat gtattacaga catcaagtaa ttcagtgtaa atgatattca   360
aaattcaaat taagtatttt tccccaaacg acgcagaaag cttttaagaa atatttagac   420
aaattgccac aaagtagaag tcaatactga aaattgcttt tctctttgct cttagtttga   480
aattgaggag gaggaagaaa tgttgtcatc cgtcatacca gattccagga gagaaaatga   540
acttcccgat ttcccccaca ttgatgagtt ttttaccctt aactcaacac catctagatc   600
tgcatatgat gagcctcatt tgctcgtaaa tattgagaaa cagaaactag agttggaaaa   660
acgacgactg gatatcgagg ccgaaaggct gcaggtagaa aaggaacgcc tacaaatcga   720
gaaagagagg ctgcggcatt tagacatgga acatgagcgg cttcagctag agaaggagcg   780
gctgcagatt gaaagagaaa agttgaggtt acagatagtc aattcagaga aaccgtcctt   840
ggaaaatgaa cttggtcaag gagaaaaatc catgcttcaa ccacaggaca tagaaacaga   900
gaagttaaaa cttgagcgag aacgcttgca actggaaaag gataggctgc agttttttgaa   960
gtttgaatct gagaagctgc agattgaaaa ggaacgctta caggtagaga aagacagact 1020
tcgaattcag aaagaaggac acttgcagtg attttttccag gcttccattt agcaaatgtt 1080
tgaaaactct agattttttct catatcaggt gatataatga tggttgctgg attagctgtg 1140
gtttcttgtc taatgtcagt gttcagtagg aaaaagttat atgtggataa ctgtatgcct 1200
aagtagtata taaaagctgt gccctagcgt aaacagtata gcagaaactt actgtgctgg 1260
actctttacc ttataatatt acatagagtc ttgtattgtc tgtgtaccca gagtttacaa 1320
ttatgtccat ataaaattct agcccagaag ttctcatctg gggtagattt tggccttcag 1380
aagaccaatt tggtgatgtc tggagacatg ttgggttgtc aaaactgggg tggggaaaag 1440
gttgctactg tgcaatgcat acctcctcaa cacccccca cactcagtaa agaatttttcc 1500
aacccaaaat atcattagtc ctgaggttga gaaaccctgt cctagcctaa ctgtgtacct 1560
ctatagctat gttttatagt tttagaatat taaaacctca gatatttatg tgggtaggta 1620
cttaaatggc caaaaacttt aactatgaaa tgttactgtg tagtatattg aatataggaa 1680
gtgatgaaga ttataggtat tttattccca tgtttccatc tataaatagc cttctcagat 1740
tcagaaaaca atacagagaa catcagaaat tttctaaaat gggtcacttt gaaaagaatt 1800
ctttttctca ctattaatgc tttagaagca agacgcaatt ttaaagcttt agttcctttt 1860
ctttcagtca ttgtcttagt ttgggtacaa aaatgtcatt tcagtaatgt actgaaatct 1920
tataagtgaa tagttgaagc tagtaaaaat gataccagta taaaaatggt acttgtagtc 1980
catgagcttg aacccaatga ctgattgttt gactttttaaa ataagtaata gcagccattt 2040
gggagtaggg ggtaggtggg gaagatgtac tccgtatcaa ataataatga tgttgaaata 2100
atgatagtag gtatgtatta tggattggag aagcacttat tacactatct aacctaatat 2160
gtagaacaat tcttgagagt tgtatctgtc gttatttctg aatgtgaagc tcagagaagt 2220
gacacagagt aaatggctga tcttctatat tgtagtatat tttgtccttc cctcttccct 2280
gaggaacaaa gcacgtatct ttagtctctt tgatatttat tctgagacca agggcttgct 2340
tgacctgatg attttccttc agctctctga aggtgctttt tccacaatcc aagtgattct 2400
gatacacact aaagttgaga atcactgcac tagatcactt tgtgttttct gattttcaag 2460
gttgatacat agctttaata cagctcttct gttgacagtt attactttaa ttttgcattt 2520
gttccttgta agaatggctg gaaactgtgt gttgacattt gaggatgggt atgcaaggaa 2580
aaaatatact tctgtttact tactctgact ttgaaatagt gttatttttc tatatctgaa 2640
ataaatgctt ctaccataga aataaatttg cctatactat ctgagaa   2687

<210> 5955
<211> 498
<212> DNA
<213> Homo sapiens

<400> 5955
```
tgtcgttatt tctgaatgtg aagctcagag aagtgacaca gagtaatggc tgatcttcta    60
tatgtagtat atttgtcctt ccctcttccc tgaggaacaa agcacgtatc tttagtctct   120
ttgatattta ttctgagacc aagggcttgc ttgacctgat gattttcctt cagctctctg   180
aaggtgcttt ttccacaatc caagtgattc tgatacacac taaagttgag aatcactgca   240
ctagatcact ttgtgttttc tgattttcaa ggttgatacg tagctttaat acagctcttc   300
tgttgacagt tattacttta attttgcatt tgttccttgt aagaatggct ggaaactgtg   360
tgttgacatt tgaggatggg tatgcaagga aaaaatatac ttctgtttac ttactctgac   420
tttgaaatag tgttattttt ctatatctga aataaatgct tctaccatag aaataaattt   480
gcctatacta tctgagaa                                                  498
```

<210> 5956
<211> 310
<212> DNA
<213> Homo sapiens

<400> 5956
```
acatctctta ccataaaaac tgcattgaaa ttgaaaatga agcagttgaa aagaaaaagg    60
aaaagcaatt ttagtgttca agaaactcag acccttttga aagaaattac gaaaaggaaa   120
gaagtcattt tttccaagca gctcaataca acaattaatg tgatgaagcg aatggcttgg   180
gaagagattg cacagtgtgt gaatgctgta ggagaaggag aacagaggac agggacagag   240
gtgaaaagaa ggtaccttga ctggcgagca cttatgaaga gaaagaggat gaaggccaac   300
attaagctgg                                                          310
```

<210> 5957
<211> 82
<212> DNA
<213> Homo sapiens

<400> 5957
```
tttgtttttga gacagagtct tactctgtca cccaggctgg agtgcagtgg cgcgatctca    60
gctcactgca agctccacct cc                                             82
```

<210> 5958
<211> 956
<212> DNA
<213> Homo sapiens

<400> 5958
```
gtacttcaaa acccccgagg cctagatctg ctatttctct cccaaggagg gttatgcgca    60
gctctaggag agagttgttg tttctatgcc aatcagtctg gggtcataaa ggatactctc   120
caaaaagttc gagaaaatct agatagacgc taacaggaat tggaaaataa cacccctggt   180
accaaaacat gtttaactgg aatctatggc taactactct aatcactgga ttggcgggac   240
cccttctcct cctcttgtta ggtttagtct tcgggccttg tatattaaat tggtttctta   300
aatttataaa gcagttcata gcttctgtca aacttacgta tcttaaaacc caatataact   360
cccttgttgt gactgaagaa tcaatgattt gattacccaa aacatgagtg gggaatgtga   420
tacctaccct gttttaacct gccccaagtt tacgtgtaca gtgggtcaga agggtgactt   480
ctgacccttc tgctcagagt gactctctct tagctgagat agctggacac tctccatttt   540
agcttcttca cttgcagtcc ccttatcccc ctcccttaag ggaataacta gtgcaagctg   600
actccaagca catccaggaa tgcacttact gataagatat tgaggcaagc tgtaccagca   660
gctcctgggg acgtgctcgg cggatggtac ccaagcccct gcatttatct ctttgtgata   720
gtttaagccc ctgcacctgg aactgtattt ttctgtaact atctctgtaa ccattaattt   780
ttttaacttt ttgcctgttc tgcttctgta aaaattgctt caagtaggct ccccctcccc   840
tatttagacc atggtttaaa aagaaatcta tcccgttctt cgaggccaag agaattttga   900
gctctagcca tctctcggtc gccggcaata aaaggactcc tgaattagcc tcagaa       956
```

<210> 5959
```

<211> 954
<212> DNA
<213> Homo sapiens

<400> 5959
```
gtacttcaaa accccccgagg cctagatctg ctatttctct cccaaggagg gttatgcgcc   60
tctaggagag agttgttgtt tctatgccaa tcagtctggg gtcataaagg atactctcca   120
aaaagttcga gaaaatctag atagacgcta acaggaattg gaaaataaca cccctggtac   180
caaaacatgt ttaactggaa tctatggcta actactctaa tcactggatt ggcgggaccc   240
cttctcctcc tcttgttagg tttagtcttc gggccttgta tattaaattg gtttcttaaa   300
tttataaagc agttcatagc ttctgtcaaa cttacgtatc ttaaaaccca atataactcc   360
cttgttgtga ctgaagaatc aatgatttga ttacccaaaa catgagtggg gaatgtgata   420
cctaccctgt tttaacctgc cccaagttta cgtgtacagt gggtcagaag ggtgacttct   480
gacccttctg ctcagagtga ctctctctta gctgagatag ctggacactc tccattttag   540
cttcttcact tgcagtcccc ttatccccct cccttaaggg aataactagt gcaagctgac   600
tccaagcaca tccaggaatg cacttactga taagatattg aggcaagctg taccagcagc   660
tcctggggac gtgctcggcg gatggtaccc aagcccctgc atttatctct ttgtgatagt   720
ttaagcccct gcacctggaa ctgtatttt ctgtaactat ctctgtaacc attaatttt   780
ttaactttt gcctgttctg cttctgtaaa aattgcttca agtaggctcc ccctcccta   840
tttagaccat ggtttaaaaa gaaatctatc ccgttcttcg aggccaagag aattttgagc   900
tctagccatc tctcggtcgc cggcaataaa aggactcctg aattagcctc agaa   954
```

<210> 5960
<211> 182
<212> DNA
<213> Homo sapiens

<400> 5960
```
gtcgaattag caccaggtat aacttatctg cttctccctt tcaggctacc tgtaatcagt   60
ctctacttac ttccttaaac acctcagtct cctaccaggc acccaacaat acctggctgg   120
cctacacttc aggctcactc attgcatcaa tgggactgaa cctggacctc tcctgtgcgt   180
gt   182
```

<210> 5961
<211> 182
<212> DNA
<213> Homo sapiens

<400> 5961
```
gtcgaattag caccaggtat aacttatctg cttctccctt tcaggctacc tgtaatcagt   60
ctctacttac ttccttaaac acctcagtct cctaccaggc acccaacaat acctggctgg   120
cctacacttc aggctcactc attgcatcaa tgggactgaa cctggacctc tcctgtgcgt   180
gt   182
```

<210> 5962
<211> 1869
<212> DNA
<213> Homo sapiens

<400> 5962
```
gaaagctgaa aggtgctgga agcctcctgc actttgggaa tatacagtca ggaacaattg   60
tcaggagttc tgtagttgat tctgtaggtt gggattgcca taaggttggt tagaaaaaag   120
atgtgcgaaa gctttcctga gggtttttgc ccttgcttc acatgtccca taattgaaat   180
taagaactgc tggcaactgg ttagtgacca gtgttgaaat gggaaaatat tactggctta   240
tgcttttgct tatagatatt gaaatttaat aaaatttaac catagttaca tatgattcta   300
tgaaattagg taggctcttc aagaaaaatg tgagcaatgt aaggcagggt attttttggga   360
gggggggtgct ttattgtata ggcaagctct cgaacagtgt ctgataatta gtagtgtctg   420
acaatatttg ctgaatgagt gaactcatgg taacataact ccagtatggc agattgattc   480
```

```
ttggtgcttt ttttccagtg gcaaactttt atagaaattg gagagtttcg taaagacttt    540
taaaaagttg tcagaattac ctattatgtc ctttcctaga taatcaattt ggaaacaatt    600
gctggtacct taagcccgat gtatgcctcc tattatagtg ttgaaaatgt tcttttgaca    660
aatgcatcaa tgaccaggca catgagaaca gtgcacagct gtagaaaaac aacaatgaag    720
gtcttcgaca caggagagag tctgcactgc atcacagctg atccgaaagt taaattcaat    780
gaaaaggcaa atattttggt caggagagga attcttccta gggagtatta gcacagtgta    840
tttttagttg tgtggctatt tatagctgcc caatggcttg cgtctgagtc tttatttggt    900
ttttaggaca tgctaaggat tgagggtcgt gggccttaat tgtatagaag acgcagttgc    960
gtttggttgc ctggaggctt ctctgtgaag cctggtggga cacctgctgg ccagtttggc   1020
ccttcttagt gaaggtgata gagacaaggg cagaaggtca ttgtatttat aggatatttg   1080
aagcttatct tgtttacttt gttaataata cttgagtcat ttttctaaac attctttgca   1140
taacagcaaa gattaaaaag ataagtaatg taatatatta ggccctagtt gtcattcacc   1200
tgttcttgta gagctgatac tttttttcttg atcaaatttt aggtttaatc atatttagct   1260
tagaagagtg gtctgtctta agagtattct gattatttag gaacatctag atgaaacttc   1320
tttgccttag tccatcgttt ctcctttaaa ttcctaaagg caggaatgag tgtttcttaa   1380
aaccaacatg tataaagcaa cattttaggc aaactgggat gaggaaaaac atcttgaagg   1440
gggcttcata atggtgttgg agcctgttaa aaatgtggaa tggaaagccg atcatgaaaa   1500
cagatagtac tgacttttgg caaaatgagt ctttatgaaa acatacctta atgattatct   1560
gacaaatgca agtgcttttt gaggttaaca gaattataaa caggagactg cagacactaa   1620
ggtcactact gagcagcacg ataattcgtg tggtgtgttc tttttaaaga ttaacaatct   1680
taagtctttt gtatgttatg ttgctaagtt atttggggga aagtgttaaa ataagtgctc   1740
ttactttctt tctccactgc ttttgcacaa aaactttact gttcaaagaa tattgtccat   1800
tcagtttact ttttattttt aagatgaagt atcccccaaa ctggtcatgc caggaaaaaa   1860
aaaaaaaaa                                                           1869


<210> 5963
<211> 221
<212> DNA
<213> Homo sapiens


<400> 5963
cagcatgctt tcttccgtca gagtgctgga gagggagctg ttagttatct tggacctgga     60
aagggcccag aaaataggtg atttattcct ggttgacttt cagagttaac aacacattga    120
agtgtgaact ctgttcgctg tatgtgtgtc ttgcatgcta ctagatgaga tggtgacaga    180
agcaagacat agaaaaaata ggttatttat taaactcaaa c                        221


<210> 5964
<211> 27382
<212> DNA
<213> Homo sapiens


<400> 5964
ggtccactgt atagtttata gaattagttt tttagtggag ttgatgatgc ctttccagtt     60
actaaaaaat cttcatttag cattcagtcg tagtacctgg gaatcatgga ggtggggagt    120
gaatgaattg ccatgtggga ggaagtgaga gtaagtggaa agtggctttt ccaggctgac    180
atttgatgcc attgggatct ctgatttttt tcctctctcc ctcccctccc cctgaggaaa    240
caatgccctt ttgataataa tttgctctct gcctgcctga caagtactca gctgagattt    300
ctcagccaac aagacagtac aaacacttgc ggtaccaagc accactttct caaaccctgg    360
cctcattgag gtgataacaa ctgtcctgct caagggattc cccctttccc cctcttcctc    420
actccttccc ccacctcctc ttggtgttat acagggatat catgtccatt tataaggagc    480
ctcctccagg aatgttcgtt gtacctgata ctgttgacat gactaaggta tgtaacttga    540
tgggggtttg gggggttttg ggaaattggg ggccataagg ttgcaaaagc ctaaaagaga    600
ttattcagct cacctctccg attacacaga tgaagaaatc aagaccccag gagagtaagt    660
ggcttgtcca aggtcacata gtgaggtgga gcagcacttt gaagaggtgt ctgttattag    720
tgtaccccat aggtactgat tggcttggaa aatcccagtt catgtctgtt gtcgcagctt    780
gactatttat agggcattct ttcactctca aaaatgctcc tgtttggata ataaattata    840
tggtcaccct atccattgta ctacccagct cttcccccat cccgttactc ttgacattaa    900
ctatgctatg gtactataaa tcagatgtag ggaaggttgg gaataggca agcttgactg    960
aagtgtttgt ggttaaagga ctttgctcag gatcctgtcc ttactggttg cgtttaagta   1020
```

```
tcccttccac cccaaagact atacctctct tgtcctcctc tcagagagaa agcttaatac      1080
ataatgtcac atttctctgg catagatacc taggtttctc tgtcactgaa tgctctaccc      1140
acagaagtgc agttgcactt aaactgatgt tagaaagaaa tcatatttcc taaacctaat      1200
gctgtttaag tgaaacacat agttttctta cagtaaattt cttacagtaa aaattcagat      1260
tttgtattgt tggtgtatct ttttttgttg ttttgaatag atttcccttc atattttttt      1320
tttatgtagt tagaaatgtt tttcctagga catctcgtcc tcagtcaagt accagtgtta      1380
atagcctagt acctggggtc ccagagttga tgccatgttg agaccagttg agtttactat      1440
tccaaatgac tgagagccag aatatgacgt agggtcttgc caggagggca aggtgggaac      1500
tatagactta ggcattggat tgccacgtcc ctttcctttt gctgttcaaa tgcttagcag      1560
acctaaatgc ctaggagcct ttgtggaaga agaaatataa ctgagtcagt tcaggttttc      1620
ctcccttcag gggggaaat cctgttgaag aattatggct tgaggggaa gagaatttag      1680
tgtcgttttc aggacggctg attttttttt tttttttttt tttaaacagt attggggaaa      1740
gttctgggac tggtctaatg gctctgagtg gaccctgagt cttccccatt ttcagtcatg      1800
atgtgctgcc tgagccacat cctccacaat aggtttgatc ctctgcagag gaagcaagca      1860
gataccctag gcatccatca caccccctaa ccctgctgtg ttactggcac tgggctgtgg      1920
cctccaatcc ctttcttcgt ctcctttcat catactttcc cttcgtgcca cataaatgta      1980
gggtgggggtt gcatcatatg catgtttggc ctgggcaaat ccaaacatat attcagtcaa      2040
aatctgtgtc gatttctcaa aattaaaaac gctagggtta tattttatag ataagcatat      2100
tatatttttc cacagtggtg ttttatccat tatatgtaac actgatcagg gaggtctgca      2160
caaaaaaaaa aaatgcttta agagagtttt aggggatact caagagtgat tttgactaga      2220
ttcagttttc gccttgggct ctaactttag aagtaacccc tgagtaagat gtcattccac      2280
tgtaatgaga tttcttaaaa ttccaaacct acgtattagt atgagtgaat acaggatgtt      2340
ccttctgcat ggtgaggata tagaacatgt gtaccagatt atggactctg cttctggtgt      2400
gggtagtagg tggagggtag ccaggagggc ttggggtggg tcatcacctc acaattttga      2460
gatggggttt tattttgcag attcatgcat tgatcacagg cccatttgac actccttatg      2520
aaggggggttt cttcctgttc gtgtttcggt gtccgcccga ctatcccatc cacccacctc      2580
gggtcaaact gatgacaacg ggcaataaca cagtgaggtt taaccccaac ttctaccgca      2640
atgggaaagt ctgcttgagt attctagggt aagaggagac ttttaagtag ccaagtcggt      2700
tgttagcaga taattactct aggtcagcct ttatcaaccg gagtccctca tctgaactac      2760
agaacacaga aaatgattga gtgactcttc tcaaatctcc tcaggatggt atgtgactag      2820
tatcattcta gatgcagagg ggagaagtta atttattaca gtggtaacct ttgagaagtg      2880
gttctcttaa gagtgtggcc ctgagcatct gggaacttgt agccgagcag tttctggggc      2940
cctatcttag acctacaaaa gaaactctgg ggttggggcc aaaaatctgg ttttttggt      3000
tgttgttttt tgtttgtttt gagacggagt cttgctctgt cgccaggctg gagtgcagtg      3060
gcacgatctt ggctcactgc aacctctgcc tcccagattc aagcgattct cctgcctcag      3120
tctcccaagt agctggggct acaggcgtgc accaccacac ctagctaatt tttgtatctt      3180
tagtagagac ggagtttcac catgttggcc aggatggtct cgatctcttg acctcatcat      3240
ccactcacct tggcctccca aagtgctggg attagaggca tgagccaccg tgcccggccc      3300
agaaatctgt tttttacaag ctctccagat gattgtggtg catactgcag tttcagaacc      3360
actctcttgg ggtgttaagg ccttattttc tctcctgaac aggttgagaa aggctgcagg      3420
tctgtgccat tcaagatttg gggtgtctta atttgagtct tgcaataagt tgctttgaag      3480
gcagtggcgg tggtggtggt ggtgatcatt atggtttcat ttttgttttg ttttgtttgt      3540
ttttgttttg ttttgttttg ttggtagagg caggtatctc actatgttgc ccaggctggt      3600
cttgaattct tgtcctcaag cagtcgtcct cttgtggctc ccaaagcact ggggttacag      3660
gcatgagcct ccatgcctga cctgattata atattttaat aatgacaaat gtctgagatt      3720
ggaaatcaca ttagatatga aatgagtttc tagtgcatct tctttctgga tgcttctgag      3780
gttttgcttc atagagttcc cattttagtt gcctttgggg gctgaaaact cagtgtggac      3840
atcttctcgc atattttgga ttggtgtttt tatagtggtc tgaacttctc tgggacagag      3900
aacacgtgca ggttgaagtt gagaaagtac ccccaaactg attattctgt tttcctgcta      3960
tccaacatgt ttccaggttt gtgtgaggga agagcagcat ttgaaataaa cttagagaca      4020
tgattcattt ttctaggact tgctcagacc cagggatatg ttctgctgtg attttggcag      4080
tgaagaagtc tttaaagga ggttgtcctt aaagaagtac ttcatctcgt tagggtactt      4140
aattaattgt ctttgctggt aggctaaaac ccatgatgat aaagaaattt agtcgttgct      4200
tctgtatgaa atttgttcgc gaaagcgtgt ctcaaagtag gctctccctc attgggtcaa      4260
tataaaactc ttttgagata ccagccacag gacagtgggg taaaagtagt agaagtgtgt      4320
taggtagaaa aggagaagct gccctgaaat tgaaaatttg ccataaagaa tcacagagta      4380
gaaaatttca gccgggtgcg gtggctcaca cctgtaatcc cagcactttg ggaggccgag      4440
gcgggtggat cacctgaggt caggagttcg agaccagcct agcctggcga aaccccgtct      4500
ctactaaaaa tacaaaaatt agccaggcat ggtggcgcat gcctctagtc ccagctactc      4560
gggaggctga ggcacaagaa ttgcttgaac ctgggaggca gaggttgcag tgagccaaga      4620
tcacgccact gcactccagc ctgggtgaca gagggagact ttgtctcaaa aaagaaagaa      4680
```

2874

```
aagaaaattc ttaggtgttc ctagttgact gtattagctt tatcagccat gttttttttt    4740
tcctctttac ctagaaaaca atgttgggct gacttactga caaaagaaat ttaacgagag    4800
ttgactctgt tgtaaagctt cagagagcag taggtctaga gttcctgggg gagcaaagct    4860
gaaaagatag aggcacttaa gagcagtccc cagtgaagtt actattaggc attactgact    4920
tgggctttcc tcaagtacag cagggaaaca gaagcaggca gtcaacttga acaagccagt    4980
cctggcttag gttgtgttcg gcttccagct ccggtgccat ctcttcaatt aattgagcta    5040
aaaataaatg tcattaacat ccaagctgtc ccctccccct aatacttggt tgggtttatg    5100
aaagagagga gcaattttgg tatttgacgt tttccatata ttattttcag accttccact    5160
gtctggaagc accccttatt ctcttcctgt tctttggaag agttgtgtag tcttaagaga    5220
atttgacact ccttgggggt ttgatacaga actggatccc caatagcccc accacatggc    5280
ctctaaccag atggcttcag tcacctgtgt cccttttatgc tcaacttccc tctcccctca    5340
ctaactccat caccacccat aaacaagctc tttgagatcc acggagatta acatttagac    5400
aactttggag ctaattgctt acctaatttc ttttgttttg attgtcgtaa ctgtttctag    5460
tacaaagaaa atcccttcaa agttacatag cttgctatta cctgttcttt tgcccccccc    5520
ccttgatttg aggattaggc aattgactga tttctggtga aatcagaaca tgagcatgag    5580
acagaggctg ggaaattcca gagtattaat agtgaaagag aaacttatgg tgagtcactt    5640
atggtggtgt tgccgggccc cagggtactt gttccctatt cttttctctgc ctcaccctcc    5700
attccttctg atgtgtttac agtacatgga ctggacctgc ctggagccca gcccagagca    5760
tctcctcagt gctcatctct atccagtccc tgatgactga gaacccctat cacaatgagc    5820
ccggctttga acaggtaagg ccagatgggc ctggctctgg ggtgtagact attgtttttg    5880
tttgtttggt tggttggttt ttttgttttt ttttttttt gagacagagt cttcctctgt    5940
cacctaggct gtagtgcagt ggtgcaatct cagcttactg caacctccgc ctcccgggtt    6000
caagccattc tgtctcagcc tcccaagtag ctgggactac aggcgtgtac caccatgcct    6060
ggctaatttt tatattttta gtagagatgg ggtttcacca tattggccag gctggtctcc    6120
agctcctgac ctggtgatcc gcctgcctcg gcctcccaga gtgctgggat tacaggcgtg    6180
agccaccgcg cccagccaga atagtgtttt aagagatctg cttgggaggt ttttttttgtt   6240
ttgttttgtt ttgttttgtt ttggacctag cacagcccca tgtactacat ttgttggtat    6300
agggaaaaaa agggaattga cacgtgtttt ttagtaatga aatttttgc cgaccactgt     6360
ggctcacacc tgtaatccca gcactttggg aggctgaggc aggcaggtgg atcacctgag    6420
gtcaggagtt tgagaccagc ctggccaacc tggtaaaacc ccatctctac taaaaattaa    6480
ctggtcagaa gtttgagacc agcctggcca acatggtgaa aacctgtctc tactaaaaat    6540
aaaagaaatt agctgggtgt gatcacttga accctggagg cagaggttgc agtgagctga    6600
gatcacgcca ttacactcca gcctgggtaa ggagcgaaac tcggtccccc cacccccaaa    6660
aaaataataa tggccaggcg cggtggctca cacctgtaat cccagcactt tgggaggccg    6720
aggcgggcag atcacaaggt cagaagtttg agatcatcct ggctaacaca gtgaaaccca    6780
gtctgtacta aaaatacaaa aaattagctg ggtgtggtgg caggcgcctg tagtcccagc    6840
tactcggagg ctgagacagg agaatggcgt gaacccaggt ggtggagctt acagtgagcc    6900
aagattgggc cattgcattc cagcctgagc gacagagcga gacaccgtct taaaaaaata    6960
ataataataa tgaattttt tatttgtgag agttacaata agtatgtgac ttggattcct     7020
ttatagcatg gaagtcaatg gactcctttg gaaattaatt ctgacctgct ttgggggttg    7080
tggcatccag tgggttctat gtgcctatat tctcagcatc ccctaaagtt gctctgtagg    7140
gactactacc cagccagctg ttcttctggg gttatgaagg actgttacct gcagagtcaa    7200
aggagctagt cattaggagt cccgggcaag acttttttgag ttaacagtgc caacgagaag    7260
gtggagaaaa ctcacatttt tccaagagca tgctctgtgc tggacactac caagttttta    7320
tatataattt cttgtttaac cttcatacta tgtgaggtta aatatggtta ttcccatttt    7380
caagtgaaat aatgttgcct cagagaggtt aattaacttt cacaaagaca cacagatcag    7440
gataggaccc cagacttaca ttggagccca acttctccca ctcttccgat gtgccttcct    7500
gaattactca tgagcacggg aaaaagttcc agtgatagtc ccaaaagaaa atgattccgg    7560
ataggtgatt agaacagctt aattaattta tttattttt gagacagagt ttcactattg     7620
ttacccaggc tggagtgtaa tggcacaatc tcggctcaca gcaacttctg cctcccaggt    7680
tcaagtgatt cctctgcctc agcctcccga gtagctggga ttacgggcac gcaccaccac    7740
acctggctaa ttttttgtat ttttagtaga gaaggggttt caccatcttg gccaggctgg    7800
tttcgaattt cggacctcag gtgatccact cgccttggcc tctgaaagtg ctgggattac    7860
aggcgtgagc aaccatgcct ggccaactta atttattttt aaaatgcctt aaactattac    7920
aactttgatt cttcctctat agacctgaac aaaggataat aaaatgcctt tcaaaaatga    7980
aaaataaaaa tttttttga dacagagtct cactccatca ctcaggctgg agtgcagtgg    8040
tgtgatctcg gctcactgca gcctccacct cccagggtca agcaattctc ctgcctcagc    8100
ctcctgagta gctgggacta caggcgcaca ccaccacgcc tggctaattt ttgtattttt    8160
agtagaggtg gcgtttcacc atgttggcca gctggtcttg aactcctgac cttaggtgat    8220
cagcctgcct cggcctcaca aagtggtagg atcacaggtg tgagccacag agtctggcct    8280
caaaagttaa caaaaattat ttcctaaccc atcctttctc caaacattca tttcaggagg    8340
```

2875

```
agagtctaat tgaaatagac ctcattagca ggagctgatt tttaggtctt gtcttttttt   8400
tttttttttt ggaggcagac tctcactctg tcacccaggc tggagtgcag tggtgtgatc   8460
tcagctcact gcaacctctg cctcccaggt tcaagcgatt ctagtacctc agcctcccaa   8520
gtagctggga ttacaggcac acaccatgac gcctggctaa ttttttgtatt tgtagtagag   8580
atggggtttc gccctgttgg ccaggcttgt cttgaacata tggcctcaag cagtctgccc   8640
acgtccgcct cccaaagtgc tgggattaca ggtgtgagcc accatgccca gccttgtgtt   8700
ttttattttt tacttccaga atgacttgca gttgttttta ttttatttat ttatttattt   8760
tttatttatt tacaggcaca caccaccaca cccagctgat ttttgtattt ttagtagaga   8820
cggggtttca ctgttttggc caggctggtc tccacctcct gaccttatga tccacctgcc   8880
tcggcctccc aaagtgctgg gattacaggt gtgagctacc gcgcctggcc catcagctat   8940
ttttatcaga ggccagggct ctaattgact ggggttggtg gtaagaggag aagagcacag   9000
gaaaaattaa aggagtagag gccatactcc ccttctattc acaccatagt gagaccctgt   9060
ttatattggc tttctagacc aaagttgaag tttatctttc gaagcttctg atagatttat   9120
ttctaattgt actatttctt tgagacaaag tcttgctttg tcacccaggc tggagtacag   9180
tggcacagtc atagctcact gaagcctcga actcctgggc tttagccatc ctctcacctc   9240
agccttctga gtagctggga cgacaggtgc acaccaccaa tgcccagcta attttttgtat   9300
tttttataga dacgggatct caccatgttg ccaatgctga tcctgaactc ctgaactcaa   9360
gcgatccgcc tgcatcggct tcccaaagtg tcgggagtac aggcatgagc catcgggccc   9420
agccctactt ctgatttata ataattggtt caatgatggt gggaccctag agacatataa   9480
caggtaaagg ggttaaccag gaagcatcct ttacttgttg atgcctgaag gttttctaca   9540
ctgagactct tcacttcatt tatacctttt tgtcccacca tcattctttc tgtctttttt   9600
ttttctcccc ctaaagagac aagtgtttcc cagcctgggc aacgtagtga gaccttgtct   9660
ctaccgaaaa actttttaa aaaaatagct gggcattgtg acatgtgcct tgagtcccag   9720
ctacttggga agctgaggag aggagcatcg cttgagccca ggaattcgag gcagcagtaa   9780
cctctgatca tgccaccact ctccagcctg gatgacaaag caagagcctg cctcttaaaa   9840
attttttaaa taaaagacaa gccgggtgcg gtggctcatg cctgtaatcc cagcgctttg   9900
gaaggctgag gcaggtggat tacctgaggt caggcgttca ggaccagcct ggccaacgtg   9960
gtgaaacact gtctctacta aaaaatacaa aaactagctg ggcgtggtga caggcgcctg  10020
taatcccagc tacttggaag gcttgagaca ggagaatcgc ttgaacccag gaggcggagg  10080
ttgcagtgag ctgagatcgt gccattgcac tccagcctgg gtgacgagca aaactcaaaa  10140
aaacaaataa ataataaaaa ataaaaactc ggggcccacc atggtgacga atgtctttag  10200
tcccagctac tcaggaggct gaggtgggag gatcgctaga gcccaggagt ttgaggattg  10260
ctggagccca ggaagtcaag gctgcagtta gctgtgatgg tgccgctgca ctccagcctg  10320
ggcaacagca aagaccctgt ctccaaaaag aaaaactgaa aaaacaggaa cttactttgt  10380
tgtctaggct gaacccaaac tcttgggctc aagtgatcct cacaccttgg cttcctgagt  10440
agctgggact attagtttat gccaccaggc ttagcaaccc taccatcatt cttatgtttg  10500
gttatttccc acataatctt tacttgatag acctttcact tcacattcag gaaaatatga  10560
tggatctagt ttgctggtga taggccaaat gacctgtaac ctgttggtat atttggaggg  10620
tggtggaggt gaatggtgtc aaaaataaag gtgtggttgc tcttcatgga tctgccatac  10680
agtgggaaag gtatctttt agtttgtgtg actggctgac atacccata ctaatcttga  10740
agtcccttcc cattggtttt cttttttgctt aattttttgga atactctggc atctgttaca  10800
ttataggaga gacatccagg agacagcaaa aactataatg aatgtatccg gcacgagacc  10860
atcagagttg cagtctgtga catgatggaa ggaaagtgtc cctgtcctga acccctacgg  10920
tatgtgtcaa gcgggcttgc ttggtattcc tttcgggcat ttgggtagtt ggcatctttg  10980
gggcagagta cagtgttggg taccagaggg agatagagaa gaaggaaaga tgtggttcct  11040
gcttttaaag aacaagtggc tgagggttac ccaagaggaa gttcagagag ctactctgtt  11100
gttggagaat gccatgcctt tgggagaggc agtccacacg ctcaggagc ttccagtttg  11160
atgaaggctt ggacgtactt ttttccagcc aaatgtgtag agtacttcat aataagactc  11220
atttcttagt gctgaagtta ttttttaagtg ccaaaactgg atgagcaacg tcagggttaa  11280
ataaataaac ttctaggaga attttgagta aggtttggga ttggggatgg ctgatgaaaa  11340
gcaatggagg tggagcaagt catgagttga agttgggatt caaatggtga gtattggctt  11400
ggtggtggct cacgcctgta atcctagtac tttgggaggc tgaggcggga ggatcacttg  11460
agcccaagag ttcgagacca gcctgggcaa cacagggaga ccccatctct acagaaattt  11520
taaaattagc caggtgtgat ggcacgctcc tgcagtcaca gccagtcagg aggctgaggt  11580
gggaggattg cttgagccta agaggttgag gctgtgtgatga caccactgca  11640
ctccagcctg ggtaacacag caagaccctg cctcaaaaag aaaactaatg gtgaatatta  11700
cagtcacact cataattcct gatgtgtagg ggaagtcaac cacgggcagt taggtgttcc  11760
tttttccaaa aggaactgta atcccagcac tttgggaggc caaggaaggc agatcaccag  11820
gtcaggagtt caagaccagc ctgaccaaca tggtgaaacc acatctttac taaaaataca  11880
aaaattaccc gggtgtggtg gcacgcacct gtaatcccag ctactcagga ggctgaagca  11940
tgagaatcac ttgaacctgg gaggcggagg ttgcagtgag ccgagattgc gccactgtat  12000
```

2876

```
tccagcctgg gcaaaagagc gagactcagt ctcaaaaaaa taaaaaataa ataaaatgaa   12060
aagatctttg tagaaaacag atctggactt gggaatggta ggtatttaat ttggcattaa   12120
ggttaggtaa agaggccagg tgtggtggct tgcgcctgta gtcctagcac tttgggaggc   12180
cgacgcaggc agatcagttg aggtcaggag ttcctgacca gcctgggcaa catggtgaaa   12240
ccccgtctct actaaaaaca aaaattagcc aggcgtggtg gcatatgcct gtaatcccag   12300
cttctcagga ggctgaggca ggagaattgc atgaatccgg gaggcagagg tcacagtgag   12360
ctgaggttgc accactgcac tccaacatgg gctacagagc aagactccat ctgaaaaaaa   12420
aaaaaggtta ggtaaggaag gggtgacctg taccctgggg tttctcactt acacttttct   12480
gcttgttttc cagaggggtg atggagaagt cctttctgga gtattacgac ttctacgagg   12540
tggcctgcaa agatcgcctg caccttcaag gccaaactat gcaggtaata caacccctgc   12600
tgctaattgc agaagcccta cagctggcca tgtaaaagcc ccccacaagc gtggcatcga   12660
cagctgtcat agaatgacac agctaagcct gggttcagtg gctcatgcct gtaatcccag   12720
cactttggga ggccaaggcg ggcggatcac gaggtcggga aattgagacc atcctggcta   12780
acacggtgaa accccgtctc tactaaaaat acaaaaaatt agccgggcat cgtggcgtgt   12840
acctgtagtc ccatctactc aggaggctga ggcaggagaa tcacttgaac ccaggaggca   12900
gaagttgcag tgagctgaaa ttgtgccact gcacttcagc ·ctggacaaca gaccgagact   12960
ctgtctcaaa aaaaaaaaaa aaaaaaaaaa aaaatagcca ggcgcggtgg ctcacgcctg   13020
taatcccagc actttgggag gctgaggtgg gcagatcacc tgaggtcggg agtgtgagac   13080
cagcctggcc aacatgatga aaccccgcct ctactaaaaa cacaaaaaat tggctcagcg   13140
tggtagcatg tgcctataat cccggctact tgggaggctg aggcaggaga atcgcttgaa   13200
cctgggaggc cgaggttgca gtgagctgag tgcactccag tctgggcaac aagagcgaaa   13260
ctcggtctca aaaaaaaag ctaaaagcaa cctatatcat ttgagggact gagagccaga   13320
gaggagactg attttcatga agtcataggg aactctttac tttccttggt cagtagcctc   13380
tttttttttt tttttaaag gcaggttctc actctgttac tcaggctgga gtgcagtagc   13440
tgggtcacag ctcactgcaa ctccaaactc ccaagctcaa gcagtcctcc cacctcagcc   13500
tcccaagctg ggacttacag gtgtgcacca ccacagctag tttttgtttt gttttgtttt   13560
ttgagacaga gtcttgctct gttgctcagg ctagagcaat ctcagctcat tgcaacttca   13620
gcctcccaag tagttgggat tacaggcata cgccatcatg cccagctaat tttttgtgtt   13680
tttagtagag acggggtttc accatgttgg ccaggctagt cttgaactcc tcacctcaag   13740
tgatctacct ccctcggcct cccaaagtgc tgggattaca ggccctgttt tgttttgttt   13800
ggttgtagag ataggdtccc actctattgc ccaggcaact cctgggttca ggtgatcctc   13860
ctcccttagc ctccaaactg ggaggctgag attattacag gtgtgagcca ctgcacccag   13920
cccatagtgt tttgaagcta agatgcgttc agccctccca gaatcttagg gattatatga   13980
atcctctatt taaattctgt tcccagccct gagggttgat cacagaaaca gtagcttaga   14040
gaaacaacat acctgtagtg tcacatgttg aaagattcct attcaaagat gataaccatt   14100
gttcattctt tgcctctact gggaaaagtg tgcttttgct tcccataaga actcaaaatt   14160
taggcttgtt ttaaggaagg aggctatcat tgaccaaatt gtagatagac agccaggtgc   14220
ggtggcttat gcctataatc ccagcacttt gggaggcaga ggtggacaga tctcttgagg   14280
ccaggagtcc aagaccagcc tggccaacat ggtgaaaccc catctctact aaaaatacaa   14340
aaattagcca ggcatgatgg ctcatgcctg taatctcagc tacttgggaa gctgagggat   14400
gagaaatgct tgaacctggg aggcagaggt tgcagtaaac tgagattgca ctactgcact   14460
ccagcctggg caacagaaca agattctgtc tcaaaaaaaa aaaaaaaaaa aagacaaaaa   14520
ttatagatag actaatgtaa accacctggt tggtaagaga atgagaattc tcctgtcctg   14580
gagaatcagt tcttgggtgt ttggatcatc ttactggtgg tcttgcttag aaatgggata   14640
ctcgtggggc ctggcgcaat ggctcatgcc tgtgatccca gtactttggt aggccgaggc   14700
agacagatca cttgagatca ggagtttgag accagcctgg ccaacacagt gaaatcctgc   14760
ctctactaaa aatacaaaaa ttagccagat gtagtggtgc gtgcctgtgg tcccagctac   14820
ttaggagact gaggcacaag aattttgctt gaacctggga ggtgaaggtt gcagtgaccc   14880
gagatcacgt tgcactctag ccttggcgat ggagccagac tccacctcaa aaaaaaaaaa   14940
aaaagaaag aaaagaaat gggagacttg gataattgac taagatttct taaggctctc   15000
tccagctctc gtactatgtc tgttcaccca ccccaacacc aacagcgtag gaggagatga   15060
cttatgccct ccagtgctac ttataaatgg tagttttccc ttccttcttt caaggacttt   15120
ccacccacct gtctcattta agcacaaagg gcagggctgg ctcaggacta agttgtctcc   15180
taaacccttt ttgagagtat atcaatgaca tatgtcctag tttgttcccc atcaggaatt   15240
ctaattgctg gtatccaaca gcattagcaa tatcagtgtg taaaggaaaa acaactggtg   15300
atgagggatg ggagggagta cagcatctgg gcaggaggag cattagagga gctggagcca   15360
cggatgaaag aaacaagatt tgcagaattg acagctccat agtagtaaat gtggagctca   15420
gtcttgaggg agttaactct catgaaggag aagtgcaggc tgtagtccca gtgacagtga   15480
ctagcatcca ctgccatccc actcaggatg agggtaatgt gtgggcagaa gtatggaagg   15540
agttttgtg agagaagcaa acaatgtgag agggaaagtt gtgtaccttt tgggggctgt   15600
tgcactgctt tgctgcctaa gtccctatat agtattttaa actctttttt ataccatcca   15660
```

2877

```
ctcaactagt tgttttttgag actttggggga caattaaacc tttctgtaca acgtttaggg   15720
atctttgatc tagaacaaga aggactaaga tcgaggctgg gtggccctgg agcaatgccc   15780
agaaacctgg atgggaatgg agtgacgagt ccctggggag gagtacaggt gcttatctga   15840
aagtcagaac tcttgaattc tagacctgct tctgacctta gaaaagcaga ttaccatttt   15900
tgagtacaga gaataaagag caacttttac cttctgtggt ttttatgagg ttaattaaaa   15960
acataggcat acttaacaat tataattctg gtcttgaatt tctcattcct atctatctca   16020
cccttattgt cccttcttcc ggatattggt ttgcttttga ggaataccaa tacattttca   16080
ctctagccca agctacacct atttggggcg gtaagagtgt cttttttttt ttttttttttg   16140
agaccaagtt ttactcttgt tgcccaggct ggagtgtaat ggtgcgatct cgatctcagc   16200
tgactgcaac ctccgcctcc cgggttcaag tgattctcct gcctcagcct cccgagtagc   16260
tgggattaca ggcatgcgcc acgacacccg gctaattttg catttttagt agagacaggg   16320
tttcaccatg ttggtcaggc tggtctcaaa ctcccaacct caggtgatcc gcccgcctcg   16380
gccgcccaaa gtgctgggat tacaggtgtg agccaccgcg cctggcccag gtgtcatatt   16440
tttaagcaaa ggttattttg cctgctgttt gggactgcct gtgctgttag gccttcctgc   16500
tcccatggct cagaagttga gctttcattt cacatgggcc cgaagttgct ttctctagga   16560
tcagccaccc agacttgaat cttccatccc cttgtctcct ttccccacag gacccttttg   16620
gagagaagcg gggccacttt gactaccagt ccctcttgat gcgcctggga ctgatacgtc   16680
agaaagtgct ggagaggctc cataatgaga atgcagaaat ggactctgat agcagttcat   16740
ctgggacaga gacagacctt catgggagcc tgagggttta gaccctgctc ccatctcccc   16800
ttcccccact caagagtccc agcagaatcc cttcccccca ccccagggat ggagaggcac   16860
tgtgtatctc cctccagact cgaagtcatc ctgcaagatg gcaagaacca agcaagctcc   16920
gatcccaggg tgtgggagtg ggggcctgtt cccggtctga cctccttggc actggagcat   16980
ctggggcttc gttcatccat tcatcccgta tcaggggcca aggtaccttt acaggagcac   17040
ctagagcgag ggcctttggc aaaaacaaaa caaccaacac acctctccac agggccagct   17100
ccttagggat aagtggaaga tggaaattgc aattccaaga gggagtgtgc ccaaatgatt   17160
tatggggata cctggaaggg agcttggggt gggggctgtc tgtgacactt aagcagtctg   17220
ggtggttgtc tatttgtctg tcttcagtct tgaagcaggg cttcccaatg cccttttcct   17280
ccctgccttc cttcccccat tatttcccac aggccagcat aattttgttt ttcctaattt   17340
atagtcactg ttctagacag accaaagaga aggaacagtg gtggagtcta ggctgctgat   17400
cagtaagctt tacctagcac ctgagcacct ttctcccctc ccctctttcc tcacccttttt   17460
ctagatgtaa gacagaaagt aaatgtgact gggacttaac caaggtcttg gtaaagcctg   17520
catggcaccg taagaagctg aaaatactgt ttgttcccgc aatcactgat ttgaaaagtt   17580
cccaacacag gcagctgctg tgtatatggg attagagcca ctacatagaa tagtctctta   17640
cagattttca taaatactag tcacaataag ggtattttttc ttgggggtgg agtaaggggg   17700
agactgatgc tagtccttgt tgtattttgt tgggctgtcc ttgtgtattt tcaccccagc   17760
ctgtagtcct cctcacttca accccaggga tttttgggga gcaagggtag ccaatggcag   17820
aggggttgg ggctgggact ctggaggctc ctcccttct ttctcttcct tccgcctccc   17880
ccgtgccccc agctgctctt gtcactgtct ctgatgggta tttgcctggc tttgttgctt   17940
ctctatctgt atttagctgc agtgatcctt tagctggttg gctcagaaaa aaaaaaatgt   18000
gctttaggtg ccctgtaatc ctgggcatca agggaatcca tccttcccct ttttgatatg   18060
ttctccccgt acttccagat ttattgttat ggctcccagt gggtattggc gattcttgtg   18120
atgcagggcc tcagtcagtg tccagccatg cataagggag aggatagtgt gtacctgccc   18180
tgccctctgc tatgaaggtc tctgccttgt ggatcatggg actccccttg gaggatctgt   18240
gcaaagggggg gctgggcaca aaggagaatg tcctatttgg gagggcagga agcaaaggaa   18300
ctggacaggg attggtgggc ttggggaacg gaagtttatc ttggataccc ttgaagaggc   18360
tgggtctctt cacatgaaga tcgaaaaggg accctgcttc caatttccct cttccattcc   18420
tcgagctact ccagggctta gaagaatgct cttggtctgt gggtccagtg ttgtctgtca   18480
tccatttaag tgttcccact ttcaagtgac aatcctctcc ttggccctgc catagggcag   18540
agcatgtctg gcatagcagc ctgactttta tgccctaatc ttgagttgag gaaatatatg   18600
cacaggagtc aaagagatgt ctttatatct gactgtatat aaatgaagtt tttttgtttt   18660
ttttgttttc ctttttggtg caataaagtt tgtttggca gaaggaggaa gtgcctgtgg   18720
gtgtgggagg gcttgtgtaa aggacgaatg ggatcatctt gtcaaccaca cctcacctag   18780
gcctggaact gttagggaga aggaaagtgc catgaattgt ctggaaaccg aagacttgca   18840
taacatggtg gaagggcagg gctgggtggg gagagcagga caagttttct cattggaaat   18900
ggggtccatg ctctggcagt cagtgacatc ttagtttgag tggtttccaa agacagacct   18960
attccagagc ttggagtgag catgtcctac aaggataggc agaggaagag atgggcccag   19020
gctatatcct gctaaaggaa gggtctcagt atggaaaaac cattgagttt tcagatttcc   19080
agtactaaac tagcactttt aggatcttag cctttagacc ataaggactt tgggagcctt   19140
aaacaactct ggcctcttcc ctcatcacca cttctacttg ctataggaga ttcttgcttt   19200
ctgatgcaga ggctttttact cttggctgac cacgtgtgta gaaaaatgtc tacacacagt   19260
atgtgctgcc attctgtact atgcagtgat acatgaaggc atgggctcgg gttaataggc   19320
```

2878

```
ctaggcacca gctttagctc ggctgaagct ggcgcccctg gcaaattact ttgattgaat 19380
cacctgtgat gttgaaggct gcctacttgg tgaaatttaa gtgagctgta tgtaaaatgg 19440
cacagggtag gtgttcagta aatgactccc tttcccacta ctgaggctag agggacctgg 19500
caatcactac aggagggtga gaaagctagt agggaattta agaaaataga acattcccta 19560
actattgttt gattcccctc agattccatt gttttctttc ctccaattta gccacgattg 19620
gacattgact tctatttcct tcatactcac agctaactct gtcataacct agagcctcta 19680
cagaggaagc cagaagagac tgaaagtgaa tattatttac tggtccatta ggaccagcta 19740
gtttgagata aggaacattt tatttaaaag gtttgaatta gcataggctg taatctatgt 19800
ctcacagcta caaagactag acaggccagg aaacaaccca cattctaggc ccagctcttc 19860
catgaacttg cagatgacct acaaaaatca ttttatatgt gcttgccgtt ctctgtgtta 19920
atcagattat gcttactgaa cgagcgaggt tttcctccaa taaaaatgca acgtgaaggc 19980
acttttcaaa aataaaagaa tgagggaaga aagaaaaact tggaactttt tttctatttt 20040
ttgtataaac aaaattgccc aggtttattt gccacctccg cctcctccct gcctgctgct 20100
gtgtgccctt ccacatgcag tcaggggagg gcttctctgg cctcctcagc tgtaatctcc 20160
tgggagtaga ggtcagtgaa gagagctggc agccagtagt gggcctcccc tggggcctgt 20220
aagtccagcc acgccaaccc ttccttcagc aggtgttcct ggagggaaaa gggaagaaga 20280
gcagtttgag aacagggagg ttccatagac aaagggtagg taagcaaccc ccacacctat 20340
tttggcttca gtgaggtttt caaactaaat ctactaagtg ccttcaaacc tttacacaac 20400
caactaaacg agctgtttgg ccttggcctt tgcctgaatt tgaaaaatgc tacgaagtca 20460
tttaacttgt gctgctgggg aagaggggta aagcctagca tagtggaata tagtggaaag 20520
aacatagcta cagaaatatt tgctgtgtgg ccttcagcaa atcactgcct ccattttccc 20580
agaaactgtt aaacagagat cactgtttag ctacctttga attaagttat tccgggtagc 20640
aaacatgatt gaccatactt atgcaagaat agactcagtt cctagagctg gaaataatat 20700
gctcaaaatg ggtggtttct gtccaatatc attaggtaaa taattatgtt atccccattt 20760
tacagatgaa aggtttagac agttgaattg tttggataag gaaaaaaggt actgaagccg 20820
gagttcttac attgctccct cttcacatca ttcattcttc agtacgatga aatttgtata 20880
tataaagcta gagtatatac tatgcaatat aatgcttagt ggataattag atatgtaatt 20940
aacgtagtta ataattcact gtactaacag tgttacttcc agtacaaact acattaatct 21000
cctgaccagc aactccaggc tcagcatgtt caggagagag agtgtcagtt ccccaagtag 21060
caggggcagc ctggtattgt gtgcatgcca gagttaggaa cctgccttcc tagttctacc 21120
ttttggtgc catcttcaga gaagtgctgg gcttccttct agcatggcag cagtagcctt 21180
caaggcagaa ggccagcaaa gcaatgctga agttcctgca tttgtggaac ccacatcctc 21240
ccaactgggg cctgcctgtc ttttctggac tgttccaaag ttgcatacca gcacttgccg 21300
cgctcgctcg gtctcccatt taagactggc tttgatctca ctgacagtca cgtagccatt 21360
cttctgaagg aaggaggaat ggggattgaa tcagttaaga gtgcaccttc ccttagaacc 21420
caggatctgc ccaggaacaa gagacttacc cagacaggag gaaaagctgt caagcatgag 21480
agaacacaga aaatgtttaa aggttccagc ggggagagag agaagtgact ttcagcatga 21540
cagaggtagg ttggtgggtt caatcctaaa actggggtac cggccaggca cggcagctca 21600
tgcctgtaat cctagcactt tttgggaggc cgaggtgggt ggatcacctg acgtcaggag 21660
ttcgagacca gcctggccaa catggtgaaa ccccatctct actaaaaata caaaaattag 21720
ccaggcatgg tggcacacgc ctgtaatccc agctactcgg gaggctgagg cagaagaatc 21780
actggaacct gggagatgga ggctgcagtg agccggagat tgcaccactg cacaccagcc 21840
tgggtgacag agcgagactc catctcaaaa aacaaaaaag tggggtccct tgtactaaca 21900
tactgagtta gacttctgca aagcactcta gagcatgaca agggaagatt ctggacaatt 21960
aattgatggg aagaaatgat gataatcata aactgctaat aacctccatt atttaaatat 22020
tcagcccttg ccctgcctca ttctactcat cctccaatac agaaaagccc ctcccttatt 22080
tagttctgtt ttacgtcata aaggaaactg ggccgggtgc ggtggctcac ccctgtaatc 22140
ccagcactta gagaggctaa ggtgggtgga tcacctgagg tcgggagttc gagaccaaac 22200
tcaggcctgg ccaacatgga gaaaccccat ctctactaaa aatacaaaat tagctgggcg 22260
tggtggcaca cacctgtaat cccagctact cgggaggctg aggcaggaga atcacttgaa 22320
cccgggaggc tgacattgta gtgagctgag atcacgccat tgcactctgg cctaggcaac 22380
gagtgaaact ccatctcaaa aataataaaa ctgaacacat ctaaatacct gatggggatt 22440
tgggggaaga tggcatatgc ttaaggcatg atgagggatg ggggcatggc aaacaagatt 22500
ttttaaaatc tgtttttgaa gaatccataa agtagtttca aaagacatca aagagtctgg 22560
ctacccaaag aaatctagtt agttgtctgc atgtctgtct acctgactag actgtaagct 22620
ccttgagagc aggaatttta tcatctttat atgccccaca gcctggccca gtgctttgca 22680
ctgtagctgc tcaataaatg tctgctgaac aagcacaggc ctgagtagtt catccactgg 22740
atagtctcag caaaagacct gcataatggg gagcacgagc tgagaactgc tccagacttg 22800
cctcacagac tgtcccttgc acacacacac actcgaaggt gcaccagtac ctctgccagc 22860
tgcagcacca cggtgtgatc catattgagc tcagctggaa cagactgaat gaggtaagtg 22920
ccgcccacag ggatgatgcc gaagccagtg ccaagtgcct ttagtttctt gatggctctg 22980
```

2879

```
atcaggtcat ctctgaggta aggaagagtt gcttaacgac ccttggcaga atcagaccta 23040
acaacacagt ttcagctctg ccctgggcag gatactgaca gaaaatttag aagactgcac 23100
aactgccagg cgcaatggct catacccata atcgcaacac ttttgggatg cccacattga 23160
gaagactgct tgagcccagg ggttagagac cagcctgggc aacacagcaa gaccttatct 23220
ttactaaaaa taaaaaatta gcagggcatg gtggcaatcg cctataatcc ttgggaggct 23280
gaggcaggag gatcacttga gcccaggagt tcaaggctgc agtgagctgt gattgtgcac 23340
cactgtactc cagcctgggt gacagagcga gaccctgcct ctaaaataaa aggctgcaca 23400
acactcaact acgtcagtaa aaagacaggg tcaaggagca ataagtgatg cttggacaat 23460
catgggagat acacaggagt caggctgtct gctcagcgaa ccactcattc caacatccag 23520
acagcggtca aagatacacc tgcagatgcc catcaggaaa tgtgaatgag tgagctgaag 23580
aggcaatggg ggtagtgtca cctgtggcaa actagagaat gcttatctat tttaaggggg 23640
gcaacccagc tgactattat tgccaagtgg caattcaaac ccaatactgc caagttttct 23700
gattctaatt gaaatcagag aaaaagaaaa cctacaaaac agtgtgtaga tcacatatcc 23760
agcccacata cagagtttaa aacctctgcc aaagctcaaa aaatgttatc acccaaacag 23820
ccagggaaag ggcacttta ggtagattgg aatgcattct ccaacccca aagaatagca 23880
aactgaaatg cttcaaatgc tcaccctctc ttcatgaaat ctgcaatgag tatggctagt 23940
aatcttttgt tatcactttc ctttttttt tttttaggag atgaggtctt ggctgggcgc 24000
ggtggctcac gcctgtaatc ccagcatttt gggaggccga gagttcgaga ccagcctagc 24060
caacatggtg aaacccatc tccactaaaa atacaagaac tagcagggcg ccagtggcag 24120
gtacctgtaa tcccagctac tcaggaggct gaggcagaag aatcatttga acccaggagg 24180
cggaggttgc agtgagccga gattgtacca ctgcgctcca gcctagacaa cagagcaaga 24240
gtccatttca aaaacaaaa aaaaaagta gagatgacgt cttgctctat atcccaggct 24300
ggagtgcagt ggtgcaatca tagctcactg cagcctagaa caatgagtgc atgcctcaac 24360
acccaactaa ttttatttt tgtagagaca aggtctcact acactgccca gactggtctc 24420
gaactcctgt cctcaagcga tcctcccacc tcagcctccc aaagggctag gattacaggt 24480
gtaagctatt gcacccagcc tcgttacttt tctttgaata ttctaggtct tcaagatctc 24540
atagtaggct gactctttgg aagttacatc aaaaacagcc ttttatcttt tctcaaactg 24600
gactcgcaca tagaggctgg agaactagat caatttatat tccatcatct cactaccacc 24660
tccttcccca gcctttctag gcacctacac tactctcctt ggcctcaaat aatctcacga 24720
ctatatacag ccctggccag ccgtggtgtc tcacacctgt aatcccagca ctttgggaag 24780
ctgaggcagg cagatcactt gaggccagga gttcaaaacc agcctggcca acaacgtgaa 24840
accccatcac tactaaaaat acaaaaatta gccaggcggc caggcgcggt ggcagacacc 24900
tgtaatccca gcactttggg aggctgaggc gggtggatca cgaggtcagg agatcgagac 24960
catcctggct aacacagtga aaccccgtct ctactaaaaa tacaaaaaat tagccgggcg 25020
tggtggcggg cgcctgtagt cccagctact cgggaggctg aggcaggaga atggcgtgaa 25080
cccaggaggc agagcttgca gtgagcagag atcacgccac tgcactccag cctgggcgac 25140
agagtgagac tctgtctcaa aaaaaaaaa aaaaaatta gccgggcatg gtggtgcaca 25200
cctgtaattc cagttactgg ggagactgtg gcacgagaat tgcttgaacc cagaaggcag 25260
aggttgcagt gagctaagat cgggtcactg cactccagcc tgggtgacag caagactctt 25320
tctcaaagaa aaaaaagact atatatagcc ccaagtttgt taaaaaataa tacatgaaaa 25380
aatgcttaga aggaactaca ttaaaatata tagcagttgt aatctcttaa ttgagaaata 25440
atggttttg tttccttttt taaatctata ttttctgttt tctaaaaata gccagccata 25500
ctggcccatg cctataatcc caactacttg ggaggctgag gtgggaggat tacttgagcc 25560
caagagtttg aggctgcagt aagcaatgat cttggtagca gtaagctgtg atcatgccac 25620
tgtactccag cccgggcaaa agtgagaccc tatctcttat tttttgtttg tttttgttt 25680
tttttttcc tgtatgatat ggagatcata cagattccta agctagccta gacatgagga 25740
ataggagaa aagagttcca tctgaatttt aaagacctct ttctgtactc caagggattg 25800
gaagacaaga cctactgact gacatcctgg gcgaacttgc cccttccctt caacacctgt 25860
tgatgtagtt cctccaaagt tatcagacct gtttggagac agggaacaga aatcagaaaa 25920
agagattccc cactttaaat aagttgacag tcattacaat tccagtggcc tacaagtagc 25980
aaataacatt ctagttccta atttttttt aacactctcc ttatgaaata actgaccata 26040
atatgagaaa tggattctga gaccttgcta ggcctgtcaa cagagagcta cgaaaatcta 26100
aaaacaaaag cagtatcatc tttgaaaaac tataaatgtc ctcttgacat caaggccgtg 26160
tctatttata gttgatgatg atttgtaaat ggttttaagt tttctttctg taacttcaat 26220
ccacaccatt taacgtgctt actaagaaag atggcatcac cagatgacaa attttaaggt 26280
cacattttag ggaacacaga ctcagttggc attcccatac gtcggagaga cagtgcagga 26340
ctatagttac taatgagaaa atcactccag acacatcaga catcagggga aaaggcctac 26400
ttcctacctc tctactattt tctgtactga ctaggacta gaccttcctg gccaaagatc 26460
tttggagaac agagacaatc gttcaggtaa ttctatttac ccttggccat ggagacttgc 26520
catggattca actgcatgaa acagctaaga tgtctctcaa gtccttagag gcctgtagac 26580
tgcaggatgg aaacgataat cttttacggt tttctccctc tcagagaagt ccagagtcca 26640
```

2880

```
gttcacagga cctagccacc ctcacctcca ttccgatgct tcagcgccag gcacacttcg    26700
ataatttgga cacctagttc gtaatagaag tcccccacgc ccagcatctc agaccaaaat    26760
cctttcccag ctacaagaca gaaaaacaaa atctcggtta ttgattaatt tacatccctt    26820
cttttctttc aaacctgcat taaaacatct atcatatgggg aagtcttccc tgcatggcat    26880
gaagttcttc tgctccatct gctactcagg aaacaatcgg actcacggta actcctgctg    26940
aagaacaggg tcagacggct ccagagggca ggcaatctaa aagtcatttc tggccgggcg    27000
cagtggctca cgcctgtaat tccaacactt tgggacatcg agctaggtgg atcgctcgag    27060
accaagagtt caagaccagc ctggccaaca tggcaaaacc ccatctctaa taataataat    27120
aataaattag ccaggagtgg tggcgtgcgc ctgtaatccc agctacttgg gaggctgagg    27180
caggagaatt gctggaaccc aggaggcaga agttgcagtg agccaagatc gcgccaccat    27240
actccagcct gggcaataag agcacaactc tctctcaaaa aaaaaaaata cagccgggga    27300
cagtgggtca cgcctgtaat tccagcactt tgggaagcca aagctggtgg atcacaaggt    27360
caagagatag agaccatcct gg                                             27382


<210> 5965
<211> 88
<212> DNA
<213> Homo sapiens

<400> 5965
gagaatcgct tgaacccggg aggcagaggt tgcagtgagc cgggattacg ccactgcact    60
ccagcctggc aacagagtga gactccgt                                       88


<210> 5966
<211> 1380
<212> DNA
<213> Homo sapiens

<400> 5966
gaggtcaagt gagggcagca gcaggtgagg tgagggatgg aggtgaggcc agatcacctg     60
gtggtttaaa agccgcagtg aggtgtttag acctaatttt aaaaacaatg aaaagcactt    120
gatttagttt agccatccat atgtggcttg tattagctca attagactcc tgccttttcg    180
caaggacagc agtctctctg tatcccatac acaagagaat gatgtgtttt ctcttttaa     240
atgagatctg tttagctagt tgtatggaga atgaactctg ctggtcaatt gtggaaacag    300
agacttagtt aagtagacct tcctgagctt accccttgca gccttccctg agatggcaaa    360
caggagggct gcaccaatcc tataccgtca gcaaaggtct ggatcgcttt gcaggatta    420
gaaagcctgc acatgtgggg cctcagacca tctgtcccca tgtctacaga aaagttccaa    480
ctgctgaatg gttttgaaat gcatggttat ttcctgggcc caatccagtc cttcataatt    540
tggccaaacc tttatgcaga gggctatgag gcattttcc tccagattct gagggtcaaa     600
gcagtcccaa tggttcaaga tacactgcag agtagtataa gctggggggca gtaaggagaa   660
ctggttgtcc attttgaaag acagggagta gaggcatccc tcattcaggg tgtgatgggg    720
aaagcaagca agtgtccttc cttcactttc cacctgttgt ccctgagcct tggtgacctt    780
ggcaggtact ggccataggt aacaataccc acgaagcagg gaaaacctgg agaataggaa    840
ttaaccaccc ttagctgtgc ctcccttct ccctgctgcc agcaaccttt gagttccctg     900
ggcctgttta taccgtgaag catggcctcc ttccgtgggg tggggttcag tcagcaggaa    960
ttggtcctgc gcatttacat tttgcctgtt gcttggcttt gagcccctca gacctggtct   1020
gtctttctag ggcctcagcc taaagcttgg aattgagttt ggaactgaaa aggtatttta   1080
gaggctgttt gtatctgttt agagtgtctc aaatgtgccc tgccgaattt gcggttatca   1140
gccagaaggg gttttttcctc cgttaacttc cctgtcagaa acagctggtg gggggtgggg   1200
gaggcctctc acttagaaaa agaaaaaaga aaaacagttt aaggggcaaa aggggggaggt   1260
tctgggggaa gaaccccttg ttagtgcaac tgggcatttc caatccttat atctttcccc   1320
tgggtcagac tgaattgaat tccttggcca ggggaggaaa gggttccatt ggtacagcgg   1380


<210> 5967
<211> 1112
<212> DNA
<213> Homo sapiens
```

2881

<400> 5967
aagttctgga taaatacttg atttgatgtg atagtgtgta ttactctatc agaaatgcag   60
agcgttgtat gattttttctg tgtacacgcg ataagagcaa tattagttgc aaaaggaagt   120
tttcatcttt gaacattaaa ggtatccttt attcttgatc actatagcat gcaaaaaaga   180
aactatattt tctgtcctgt tctttgtatt actgttaaag agttggtaaa ctgccgtctt   240
gctgtgagac tgggaagtcg gcaatgaagt tagatttgta ttcatgaaca tgatctgcct   300
gtcatatagg cttgctttga cttgtttttt ttttcagtag tggcaaaggg ttttctgcca   360
ctcaatccac actttcctcc gcattggtat ctccgttgac cattttgcaa aatagtttat   420
tgagattagg ggtctgatct tttgtataac ctgttgtagt gaactgatca tatgcgactt   480
gactttggcc aatagtacct cgtgcagtgt acagtactac tatttagact tactgatttg   540
ggtaatagaa aagctatgat gttagaaatg ttgtcgttgt atattggaga aattttgaag   600
ttgcatattg gagtaattta gtcctgtatg ctttgtaaat gagtgcattc tattgtcgag   660
agtaaataca gtattttgta gtataaactt aagcttttag ctgaagaaat tggcagcata   720
gttggagtgt ggagactatt cttaaaacgc aaatgtttta aattacaagg aactgtagtg   780
gtgtgtaggc tgtaacaatt cctggtgcca aatttgggag attatttggt tgagctactt   840
tctataaaga aacatattaa gtatctgcaa taaaagtgga tttgtagcta tacacaaggg   900
attttacatt ataaataata actcaataag gcacctttct ttgctctttg tgtatctgcc   960
agttaagacc aaaacatctc atattttcac tggagcttcc tgccaaaaca aatactggtt   1020
ttgcattggc tttgctgctc agtttgaaag ctaggggaat ctcttagagc ctactctggt   1080
tctggaggct gcctgattaa aaaaaaaaaa aa   1112

<210> 5968
<211> 168
<212> DNA
<213> Homo sapiens

<400> 5968
ggcgtggtgg ggggcgcctg tagtcccagc tactgggaag gctgaggcag gagaatggcg   60
tgaacccggg aggcggagct tgtagtgagc cgagatcgtg ccactgcact ccagcctggg   120
agacagagcg agactccgtc tcaaaaaaaa aaaaaaaaaa aaaagatg   168

<210> 5969
<211> 184
<212> DNA
<213> Homo sapiens

<400> 5969
cgtggtggcg ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg   60
aacctgggag gcggagcttg cagtgagccg agatcgcgcc actgcactcc agcctgggcg   120
acagagcgag agtccgtctc aaaaaaaaaa aaaaaaaga aagaaaaaa gaacaaacaa   180
cagc   184

<210> 5970
<211> 147
<212> DNA
<213> Homo sapiens

<400> 5970
ggtcccagct actcgggagg cttaggcagg agaatggcgt gaacccagga ggtggagctt   60
gcagtgagcc gagatcgcgc cactgcactc cagcctgggc gacagagcga gactccatct   120
caaaaaaaaa aaaaaaaaaa aattgtg   147

<210> 5971
<211> 143
<212> DNA
<213> Homo sapiens

2883

<210> 5977
<211> 100
<212> DNA
<213> Homo sapiens

<400> 5977
ctgaggcagg agaatggcgt gaacccgaga ggcggagctt gcagtgagcc gagatcgcgc   60
cactgcactc cagcctgggc gacagagcga gactcccctt   100

<210> 5978
<211> 140
<212> DNA
<213> Homo sapiens

<400> 5978
ggctgaggca ggagaatggc gtgaacccgg gaggcggagc ttgcagtgag tcgagatcgc   60
gccactgcac tccagcctgg gcgacagagc gaaactccgt ctcaaaaaaa aaaaaaaaaa   120
aaaaaaaaaa gaggggaaaa   140

<210> 5979
<211> 153
<212> DNA
<213> Homo sapiens

<400> 5979
cccagctact cgggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca   60
gtgagccgag atcgcgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa   120
aaaaaaaaaa aaaaaaaga aagcagtggg gcc   153

<210> 5980
<211> 193
<212> DNA
<213> Homo sapiens

<400> 5980
cgggcgtggt agcgggcgcc tgtagtccca gctactcggg aggctgaggc aggagaatgg   60
cgtgaacccg ggaggcggag cttgcagtga gccgagatcg cgccactgca ctccagcctg   120
ggcgacagag cgagactccg tctcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaattgac   180
tcctaatcaa aaa   193

<210> 5981
<211> 136
<212> DNA
<213> Homo sapiens

<400> 5981
ggcaggagaa tggcgtgaac ccgggaggcg gagcttgcag tgagccgaga ttgtgccact   60
gcactccagc ctgggcgaca gagtgagact ccgtctcaaa aaaaaaaaaa aaaaaaaaaa   120
aaaaaaaaaa aaaaaa   136

<210> 5982
<211> 150
<212> DNA
<213> Homo sapiens

<400> 5982

```
ggcgcctgta gtcccagcta ctcgggaggc tgaggcagga gaatggcgtg aacccgggag      60
gcggagcttg cagtgagctg agatcgcgcc actgcactcc agcctgggcg acagagcgag     120
actctgtctc aaaaaaaaaa aagaattggc                                      150


<210> 5983
<211> 142
<212> DNA
<213> Homo sapiens


<400> 5983
cccagctact caggaggctg aggcaggaga atggcgtgaa cccgggaggc ggagcttgca      60
gtgagccgag atcccgccac tgcactccag cctgggcgac agagcgagac tccgtctcaa     120
aaaaaaaaaa aaaaaaaatg ga                                              142


<210> 5984
<211> 123
<212> DNA
<213> Homo sapiens


<400> 5984
aggcaggaga atggcgtgaa cccgggaggc ggagcttgca gtgagccgag atcccgccac      60
tgcactccag cctgggcgac agagcgagct ccgtctcaaa aaaaaaaaaa aaaaatgctg     120
tta                                                                   123


<210> 5985
<211> 177
<212> DNA
<213> Homo sapiens


<400> 5985
ccgggcacgg tggcgggcgc ctgtagtccc agctactcag gaggctgagg caggagaatg      60
gcatgaaccc gggaggcgga gcttgcagtg agccgagatc gcgccactgc actccaccct     120
gggcgacaga gcgagactcc gcctcaaaaa aaaaaaaaaa aaaaaaaaaa gaaggtc        177


<210> 5986
<211> 166
<212> DNA
<213> Homo sapiens


<400> 5986
ggcgtgcgcc tgtagtccca gctactcggg aggctgaggc aggagaatgg cgtgaacccg      60
ggaggcggag cttgcagtga gccgagatcg tgccactgca ctccagcctg ggtgacagag     120
caagactccg tctcaaaaaa aaaaaacaaa aaaaacatgt aggcag                    166


<210> 5987
<211> 142
<212> DNA
<213> Homo sapiens


<400> 5987
cctcagctac tcgggaggct gaggcaggag aatggcgtga acccgggggg tggagcttgc      60
agtgagccaa gatcgcgcca ctgcactcca gcctgggtga cagagcgaga ctccgtctca     120
aaaaaaaaaa aaaaaaaact ta                                              142


<210> 5988
```

<211> 268
<212> DNA
<213> Homo sapiens

<400> 5988
cggccgaatt ctgccctccg ctaacgagct atagctttgt ggaaatgggc gagtggcgtg   60
cccttgtgag cctcagggcc gcatctgtaa aatgggcata actgtcatgc ctgtctttaa   120
gaacagcctt gggggtaaat gagtggaact catggaaaga tctcagccca caaccttcca   180
cagaacaggc gcttctcaca cagtaagtag caggagtgca gaggctgcag gcatgaatcc   240
agccagactg cctgggttca agtcccag   268

<210> 5989
<211> 368
<212> DNA
<213> Homo sapiens

<400> 5989
ggcatgggca aggacttcat gtctaaaacg ccaaaagcaa tggcaacaaa agacaaaatt   60
gacaaatggg atctaattaa actaaagagc ttctgcacag caaaagagtc taccatcaga   120
gtgaacaggc aacctataca atgggagaaa aattttgcaa tctactcatc tgacaaaggg   180
ctaatatcca gaatctacag tgaactcaaa caaatttaca agaaaaaaac aaacaacccc   240
atcaaaaagt gggcaaagta tatgaacaga cacttctcaa aagaagacat ttatgcagct   300
aaaagacaca tgaaaaaatg cccatcatca ctggccatca gagaaatgca aatcaaaacc   360
acaatgag   368

<210> 5990
<211> 2925
<212> DNA
<213> Homo sapiens

<400> 5990
ctcccgagta gctgggacta caggcgcccg ccaccacgcc tggctaattt tttgtatttt   60
tagtagagac ggggtttcac cgcgttagcc aggatggtct tgatctcctg acctcgtgat   120
ccgcccgtct cggcctccca aagtcctggg attacaggcg tgagccaccg cgcccggctg   180
agatgggtat tattaagaaa ttaagatgtg gattaccagg gtaagtcata tttcaatgtg   240
caacctctgc aagtccacag ggtgtgatat ggacattaag gagatctatg gacgaatagc   300
gtatgatacc ttgacaagtt gacaaaatgt aaaatagttg aatggccata gaaaaaaacc   360
agcttttag ccccataggc cgagggattc aggagggctg gctacgggca ttttggaatg   420
gaagatgttg taccaacaaa tcaagcttag gttcctggca atttgcccac atataatatg   480
tgaaagttca gatgtgaaat aaatctgcgg ctaatagtaa gaacctagcc acaggagtta   540
aaacttacgg ttctgggacc agatggactg ccttctaatc ttagtcttac tacatttttag   600
cggtaaaacc ttcagcaagt tatttagcct ccagcatctc agttttctca tctgtaaaat   660
ggtgataatg ctactcttac attgggttgt agtaggataa aaggagaaaa cgtatgtaaa   720
ggatttagta gaaacttatt aaaattaagc aattattatt tctcaattct aagattctaa   780
cctgcaaaag gcataaggca gctgctgaga acagggtgag aagataggga ttcggtcagg   840
aaaagtcttg tttccctgtt gctgttggtg gttttgtttg ctcatttgtg tgttttttttt   900
attaatcatt ttcacttgtg tttattgaca agcttaatca ataatgccat tgacatttag   960
taaaagtaaa tttccttaag tgatctccca ggtagcaatg tttattcatt atgtgtggag   1020
tagagatagg aattatttta ttgctgcaaa tattttatta ttggttttc aagtttaaa   1080
agtaatttta attttttaat ttttgtgagt atatagtaag tgcacatatt tatggggtac   1140
atgagatatt ttgatacagg catatgatgt gtaataatca catcagggta aacagggtaa   1200
gcatcacctc aagcatttgt ccttttttgt attacaaaga atctaattat actcttttag   1260
ttatttttaa atgtacaata aattattgtt gactatagtt ttgccactgc aaacaataga   1320
aggcttcctg atacagcctc ctagtcattg gagttctatg gcagaattcc taaagttttt   1380
aagtttcatg agatggctaa attttggtaa atatgatact ttctttgaac agatgctaca   1440
gaggccaata taaaggagtg taacagagtg acacctgtga tcagtatctc tccaactaca   1500
aagagtgtcc cttaaatttc ttctgtgtgg ttcctctttt ttttttttt ttttttgag   1560
acgaagtctc gctctgtcgc ccaggctgga gtgcagtggc gcgaacttgg ctcgctgcaa   1620
gctccgcctc ccgggttcac tccattctcc tgcctcaccc tctcaagtag ctgggactac   1680

```
aggtgcctgc caccactccc ggctaatttt tttttgcatt tttagtgaga gatggggttt    1740
cactgtgtta gccaggatgg tctccatctc ctgacctcat gatccagccg ccttggcctc    1800
ccaaagtgct cggattacag gcgtgagcca ccgcgctcgg cctgtgtggc tcctcttaag    1860
taatactctg cttcgtccat ataagcagag gtcagaactg gctaagaatt tctttatgtg    1920
tgtttatcct gatgttttcc tactgtcact tttcttttct tatggattag cattgaggga    1980
atggtcagat ggtgcctgcg tgagtctgat tgaaacattt tagcggcggg gtgcgggggt    2040
tgatggcatg tgcaatagtt taggatattt gagttagtgg cagaatgtag acatgagggt    2100
gagtagagag tgcgtagcag agcaagcaat tcaggaatct atgttggtta attacttttg    2160
ttttgtggac attttattct acctgaaaag attatctagg aactacagaa attaatgacg    2220
tgtagtggaa actttgcaca gtgtaagtgt tatccattta cttctcttag tttccaatac    2280
aatgactctc ctggtagctg tcatacatga taaatataat ttcgttaata aaattatatt    2340
ttatataatt gcgtacttta aacaagtgat caatataact cagttataaa tgtacagtaa    2400
caaagatcaa tggataataa atacttctgc gttcattttc atggatacat tctatttttg    2460
tttgtctcac aagcagtaat cagactatga atcatgatat agctccataa acacttactt    2520
tatagcaatt cactgatata tgctccacca aaaaaaatta agagacggat acaagcaatt    2580
taaagcttct gtgtgtgtgt gcatgcaacc gatgtgtatg gctttttttt tttttttttt    2640
ttttgacaca gagtgtcgct ctgtcgccca ggctggagtg cagtggcgtg atctccgctc    2700
actgcaagct ccgcctgcct ggttcacgcc attctcctgc cttagcctcc caagtagctg    2760
ggacttcagg cgcctgacac cacgcctggc taattttttg tatttttagt agagacgggg    2820
tttcaccgtg ttatccagga tggtctccat ctcctgacct cgtgatccac ctgcctccgc    2880
ctcccaaagt gctgggatta caggcttgag cctcctcgcc cggcc              2925


<210> 5991
<211> 4704
<212> DNA
<213> Homo sapiens

<400> 5991
tattattata ctttaagttt cagggtacat gtgcacaatg tgcaggtttg ttacacatgt      60
atacatgtgc catgttggtg tgctgcaccc atcaactcgt catttagcat tagatatatc     120
tcctaatgct atccctcccc actcccccta ccccacaaca gtccccggtg tgtgatgttc     180
cccttcctgt gtccatgtgt tctcattgtt caattctcat ctatgagtga gaacatgtgc     240
tgtttggttt tttgtccttg caatagtttg ctgagaatga tggtttccag cttcatccat     300
gtccctacaa aggacatgaa ctcatccttt tttatggctg catagtattc catggtgtat     360
atgtgccaca ttttcttaat ccagtctatc attgttggac atttcggttg gttccaagtc     420
tctgctattg tgaatagtgc cgcaataaac atacatgtgc atgtgtcttt atagcagcat     480
gatttacaat cctttgggta tatacccagt aatgggatgg ctgggtcaaa tggtatttct     540
agttctagat ccctgaggaa tcgccacacc gacttccaca atggttgaac tagtttacag     600
tcccaccaac agtgtaaaag tgttcctatt tctccacatc ctctcagcac ctgttgtttc     660
ctgacttttt aatgatctcc attctaactg ttgtgagatg gtatctcatt gtggttttga     720
tttgcatttc tgatgatggc cagtgatgat gagcattttt tcatgtgttt tttggctgca     780
taaatgtctt cttctgagaa gtatctgttc atatcctttg cccacttttt gatggggttg     840
tttgtttttt tcttgtaaat ttgtttgagt tcattgtaga ttctggatat tagccctttg     900
tcagatgagt aggttgcaaa aactttctcc cattctgtag gttgcctgtt cactctgatg     960
gtggtttctt ttgctgtgca gaagctcttc agtttaatta gatcccattt gtcaattttg    1020
gcttttgttg ccattgcttt tggtgtttta gacatgaagt cttacccat gcctatgtcc    1080
tgaatggtat tgcctaggtt ttcttctagg gttttttatgg ttttaggtct aacatgtaag    1140
tctttaatcc atcttgaatt aattttttgta taaggtgtaa ggaagggatc cagtttcagc    1200
tttctacata tggctagcag gttttcccag caccatttat taaataggga atcctttccc    1260
cattgcttgt ttttgtcagg tttgtcaaag atcagatagt tgtagatatg tgacattatt    1320
tctgagggct ctgttctgtt ccattggtct atatctctgt tttggtacca gtaccatgct    1380
gttttggtta ccatagcctt gtagtatagt ttgaagtcag gtagtgtgat gcctccagct    1440
ttgttctttt ggcttaggat tgacttggca atgtgggctc ttttttggtt ccatatgaac    1500
tttaaagtag ttttttccaa ttctgtgaag aaagtcattg gtagcttgat gggaatggca    1560
ctgaatcttt aaatgacctt gggcagtatg gccattttca cgatattgat tcttcctacc    1620
catgagcatg gaatgttctt ccatttgttt gtatcccctt ttatttcatt gagcagtggt    1680
ttgtagttct ccttgaagag gtccttcaca tcccttgtaa gttggctctc taggtatttt    1740
attctctttg aagcaattgt gaatgggagt tcactcatga tttggctctc tgtttgtctg    1800
ttattggtgt ataagaatgc ttgtgatttt tgcacattga ttttgtatcc tgagactttg    1860
ctgaagttgc ttatcagctt aaggagattt tgggctgaga tgatggggtt ttctagatat    1920
```

2887

```
acaatcatgt catctgcaaa cagggacaat ttgacttctt cttttcgtaa ttgaatgccc    1980
tttatttcct tctcctgctt gattgccctg gccagaactt ccacactatg ttgaatagga    2040
gtggtgagag agggcatccc tgtcttgtgc cagttttcaa agggaatgct tccagttttt    2100
gcccattcag tatgatattg gctgtgggtt tgtcatagct agctcttatt attttgagat    2160
acatcacatc aatacctaat ttattgagag tttttagcat gaagcattgt tgaattttgt    2220
caaaggcttt ttctgcatcc attgagataa tcatgtggtt tttgtctttg gttctgttta    2280
tatgctggat tacgtttatt gattttcgta tgttgaacca gccttgcatc ccagggagga    2340
agcccactag atcatggtgg ataaactttt tgatgtgctg ctgtatttgg tttgccagta    2400
ttttattgag gattttttgca tcaatgttca tcaaggatat tggtctaaaa ttctcttttt    2460
tggttgtgtc tctgccaggc tttggtatca ggatgattct ggccacataa aatgagttag    2520
ggaggattcc ctcttttttct attgattgga atagtttcag aaggaatggt accagctcct    2580
ccttgtacct ctggtagaat tcggctgtga atccatctgt tcctggactt ttttttggttg    2640
gtaagctatt gattatttcc tcaatttcag tgcctgttat tggtatattc agagattcaa    2700
cttcttcctg gtttagtctt gggaggatgt atgtgtcaag gaatttatcc atttcttcta    2760
gattttgtag tttatttgca tagaggtgtt tatagtattc tctgatggta gtttgtattt    2820
ctgtgggatc ggtggtgata tcccctttat cattttttat tgcgtctatt tgattcttct    2880
ctcttttctt ctttattagt cttgctgtct atcaattttg ttgatctttt caaaaaacca    2940
gctcctgaat tcattaattt tttgaagggt ttttttgtgtc tctatttcct tcagttcttc    3000
tctgatctta gttatttctt gccttctgct agcttttgaa tgtgtttgct cttgcttctc    3060
tagttctttt aattgtgatg ttagggtgtc aattttagat cttttcctgct ttctcttttg    3120
ggcatttagt gctataaatt tccctctaca cactgctttg aatgtgtccc agagattctg    3180
gtatgttgtc tttgttctca ttggtttcaa agaacacctt tatttctgcc ttcatttcgt    3240
tatgtaccca gcagtcattc aggagcaggt tgttcagttt ccatgtagtt gagtggtttt    3300
gagtgagttt cttaatcctg agttctagtt tgattgcact gtggtctgag agacagtttg    3360
ttataatttc tgttctttga catttgctga ggagtgcttt acttccaact atgtcaattt    3420
tggaataggt gtggtgtggt gctgaaaaga atgtatattc tgttgatttg gggtggagag    3480
ttctgtagat gtctattagt tccgcttggt ttagagctga gttcaattcc tgggtatcct    3540
tgttaacttt ctgtcttgtt gatctgtcta atgttgacag tggggtgtta aagtctctga    3600
ttattattgt gtaggagtct aagtctcttt gtagttcact aaggacttgc tttatgaatc    3660
tgggtgctcc tgtattgggt gcatatatat ttaggacagt ttgcttttct tgttgaattg    3720
atccctttac cattatgtaa tggccttctt tgtctctttt gatctttgtt ggtttaaagt    3780
ctgttttatc agagactagg attgcaatcc ctgccttttt ctgtttttcca tttgcttggt    3840
agatcttcct ccatcccttt atttttgagcc tatgtgtgtg tctgcacgtg agatgggttt    3900
cctgaataca gcacactgat gggtcttgac tctttatcca atttgccagt ctgtgtcttt    3960
taattggagc atttagccta tttacattca aagttagtat tgttatatgt gaatttgatc    4020
ctgtcattat tatgtcagtt ggttattttg ctcattagtt gatgcagttt cttcctagcc    4080
tcgatggtct ttacaatttg gcatgttttt gcagtggctg gtactggttg ttcctttcca    4140
tgtttagtgc ttcttccttc aggagctctt ttaggacagg cctggtggtg acaaaatctc    4200
tcagcatttg cttgtctgta aagtatttta tttctccttc acttatgaag cttagtttgg    4260
ctggatatga aattctgggt tgaaaattct tttctttaag aatgttgaat attgcccccc    4320
actctcttct ggcttgtaga gtttctgcca agagatcagc tgttagtctg atgtgcttcc    4380
ctttgtgggt aacccgacct ttctctctgg ctgcccttaa catttttttcc ttcatttcaa    4440
ctttggtgaa tctggcaatt atgtgtcttg gagttgctct tctcgaggat tatctctgtg    4500
gtgttctctg tatttcctga atttgaatgt tggcctgcct tgctagattg gggaagttct    4560
cctggataat atcctgcaga gtgtttttcca acttggttcc attctccccg tcactttcag    4620
gtacaccaaa cagacgtagg tttggtcttt tcacatagtc ccatatttct tggaggcttt    4680
gtttcttttt attcttttttt ctct                                          4704
```

```
tccaagacca gcctggtcaa cctagcgaga ccctatatct atgtgtattt aaaaattaag     60
aattttgtaa aataataaaa ataatagaat ccaggctgcc catctttgta gtttagagat    120
ggtaggttct tctaaggggt agtaattggc ctttgaaagt tcacattcat aacttctttc    180
ttaagttggg tggagagagg gaagccaatg gcgttttttt ttttttggt tttttgtttt    240
tttttaaaca tcaaagtgca ctgtcagagt gccgagtcct gattggtgga atgatgatgg    300
tatgatttga ttctcccaaa tcatctttga aaactgtga aacatacaat aagcttattc     360
```

```
cttgcctaat taccggttgc tgggtcccag ggggttgctg gaacacggag actaatcaga      420
tgattcttgt ctttaaggag catgtggaag aggggacaga tgaatacccc atcttcctgc      480
tctccatcag tccgccctgg tgtgatgtgc cttagcagtt ccgagtaatc ttcctggaaa      540
aaataaatag gcaactgcga tgagtttgtg caaggatcct aatggtaatg aataataata      600
acacaccact gacagcgaac gctgagtgtt cactgcgtgc taggcaccat gcagagggtt      660
tcccctcaca tgtactttag gggtagaaag agggacaaag aggaaagtct attaggtgca      720
gatctgtgaa ctctgaatag gccatccacc atctgagact cagaaacctg cagggacctg      780
gccgatgggc aggctgcatg ctggctgcac catgagtcag caccagactg ggagacgcag      840
ccactcaggg atccaaggga ctcaaacatc tgcaacctgg ccccaggcca agagaacaaa      900
ctgcaggctc cggatttgcg gccctgtagg ataggctcaa aatgaaacat gtttgttatt      960
tctaagtgga tgggaactga aagaacccga acaatcagtg tacaaggatt catgaatgga     1020
ccaaacatgc ttgctttttg ttcttgaaag atgtttgttg tatttaatat ataacgagaa     1080
gagtggtcaa cgctgactgg gtgctgagca ctttaagtgc attacctggg tggctggctg     1140
ggctgtgcca gggttgaagg gtgtgggggag cttctttcaa ggtgcccctt ctgcctcctg     1200
gcacaggact ctggctccag cacaccccaa gctgaccctg gtgggggtag ggcccctcac     1260
ccaaacctgg cctctcccgt ctcttgttct gctgcctcag ctttctcctg tctgtggtag     1320
agtctgcttg gacagactct gggcagggca ggggcaggg caagctggag agagaattcg      1380
ttctaggttg atgtgggatg atagtggctg gtagggcgct tgtatcctat tggaaatcca     1440
tgatgagatc ccattcattc ccacccttct cttaacaatg tctccttaag tccaagtctc     1500
aagtcgggtg cccagtttca taccatcctt cctctccctc tcacaacctt cgggcaggac     1560
caaccccctc agaggaaccc ctgctgcccc agccctttca ggctctgtgc ccaggatctc     1620
ccctccactc cctggaaatt ccacatttgg ccaggtgtgg tggtgcacac ccttgttccc     1680
agctactcaa aaggttgagg tggaggtaga ggctgcagtg agctgtgatc tcactactgc     1740
actccagcct gtgcaagaga gtgagacccc gtctctaaat aataataata ataataa      1800
taataataat aataaattta aagaaaaaga a                                    1831
```

<210> 5993
<211> 1466
<212> DNA
<213> Homo sapiens

<400> 5993

```
gtttcctcag gtgtaaaatc aggatacacc cgttcagcaa ggatgctgtg agagcatcca       60
cctacaacag tgatgctcgc aggcccgggg ctggcaccgt cgctctgtgg gcctcggcct      120
ctgggtcccc acaaggcagg gctgggacac ccgcccgacc tcctcccgaa ccagaacccc      180
ggctgccccc agctccgcgg gtctgccccc gacacatccc tcccgaaggc cacttggctt      240
ggacacaaat cgaaaccgaa aagctcatgt gacactggag gcagggatgc ggcctcgccc      300
gctctcagcc cagggagacg ctgtctccac ccaactcggc catcttgaga ggcccgagca      360
gacaaagcga ccccattgtt ttgggtgacg gcagacgggg accccttttcc cctccccgcg      420
accaggagcg gggcgccctg ggggctccgg gccgggcagt gggtgtggcg agggcgagcc      480
ccgggcgccg cgccggcctc tgcggggcgt ctgcggccct ggggacccgg ccggcgggac      540
gtctgcggcc gccgggctct gcccatccag gggtcatctg cagctgccgg gctcctccca      600
tcccggggac atctgcgacc ccggaggacc tggcaggccc tgcattccgc gaggcctggc      660
tctggcgacc ctgccctccg cggccccgca cctttgagcg tggagcgctc caccagcacc      720
gtgtggacct gcgggtccga aaggaacttg cgcatctgct ccagggcgct cttctcctcc      780
agcgccgcct ccagcgcggc cggcgcctcg ccgccgtcct ccagcagcag cggcaccagc      840
ttgcgcaggt gcttctgcag caccgacacg tccgccacat tctgcacggc cgacacttcc      900
aatccggccg agccgtcctc gccgccgccg ccccgggct ccgacatggt gtcgcgctcg       960
ggaccttcca ggagcgatga gaaggcggcc gcgactcagc gagacagcca gcaagagaca     1020
gaaacggccg ccggaagccg gaccgtccgc tagcccaccg cagactgagg agagcgggag     1080
ccggctccgc cctaaaggca gccactgcca ggtggccccg ccccgccccg ccggccgcag     1140
ccgccgcagc cacccgcgct cgctcgcggc cttagcgtca cggcgccgcg cgtgcgcggg     1200
gggcggggccc ggcgatgtcg ccgcgcgccc ttctgggact tgtagtctcg cgctggtcg     1260
gggcccgcag cctccgcact gcgagtccta ggagatgggg acttggctca acgtcctggc     1320
tcggcgcccg ggcttggcga ggttggtcag gggctgcgtc tgtcttcttc actgctgtgg     1380
acgcagcgaa tagcacacag ccagagaaac tttatagtga atcagtgatg ttattggcga     1440
gagctaacgt ttagtgagcg cttagc                                          1466
```

<210> 5994
```

<211> 6154
<212> DNA
<213> Homo sapiens

<400> 5994
```
aagctgaaat tggaagaaga gaagaagaat aaagtgagag aggggcgggg gccggggttg    60
ggggcagtgg ctaatccctg aggccggctg agcagtgagg cctggaggga ctctggtggg   120
gcagcctgag cagctggtgt ctcctgtcgg cagggcagag agatctcttg accagcggct   180
gatggctggc atggtcttgt cttctgcccc agcttgaaag atttaacagt accagattta   240
atctggataa cctggctgac ttggaaaact tggttcaaag acggaaaaag cgactgagac   300
acagagtccc ccccaggaaa cctgagcccc tggttaaggt gagtgggagg tcggggttag   360
ggcagtgcac acaccagggc tccagttcca gaggaagggc ttggggcaga gtgggcactg   420
caggccagga ccacacagcc agtgcctggg gagcccatta aatccactcc agagcccccg   480
cggatgtgtc cgccagggct gccataacaa agtcccacag cctggacagc ctcaacagca   540
ggcatgtgtc acctcgctgt cctggggggct ggaaggctaa caggaaggtg ttggcgaggc   600
tggttccctc tgagggtggt gagggagaat cccttcatgc ctctccggct tctggtggat   660
gctggtgatc tttggcgttc cttggcttgt agatgtatca cccaactatt gccttcatgt   720
ttgctgggcg ttctgcctgt gtgcatgcct gtgtccatgt gtctccccca actttttttt   780
ttttttttt ttttttttg agacggagtc tcgctctgtt gcccaggctg gagagcagtg   840
gcacgatctc ggattactgc aagctctgcc tcccgggttc atgccattct cctgcctcag   900
cctcccgagt agctgggacc acaggcaccc gccaccacgc ccggctaatt ttttttgta   960
tttttagtag agatgggggtt tcaccgtgtt agccaggatg gtctcaatct cctgtccttg  1020
tggtctgccc gcctcagcct cccaaagtgc tgggattaca ggcatgagcc accgcatccg  1080
gcccacgtgt cccctttcat aaggacatca gtcacattgg attagagccc actttaacac  1140
aagtcatatt ggtgaggggc ccaccatacg ccggtgtgac ctcatcttaa ctaattacat  1200
cctcagtgac tctgtttcca aataaggtca cattctgagg tacctggggt tagtacttca  1260
tacgaatctt ggggagatac aagtcaatcc ataacacaca cgctcacaca cacacagtct  1320
attcaatctc ctggcgtggg attagaataa gaaactgcat tagtacgagc cagcagtgtt  1380
ccttggtggg ctgcatggga cccgtgggcc agactggtga agctgtgaca tcttgggcac  1440
ctgcggcctt cgggagtgat ttggtcttgt cttcaactga accagccgca gtcccaggcc  1500
caggtggagc ctgtgggcct ggagatgttc ctgaaggcag ctgctgagaa ccaggagtac  1560
ctgattgaca agtacttgac agacggaggg gaccccaatg cccatgacaa ggtagcacag  1620
gttgggtgag tcggctggca gcagctgcag ctgcaggagc gctgccttca gtgtgttcaa  1680
gtcctggcct aggaggctgc agggattttc actcttatgg gcatgaatcc agtggcacct  1740
gcagacggag gagagggagc ggcccatcgc gtggtggggg aagtggcaat tccattcagg  1800
gacctggccc tgggaagggg accgcgtggg gtctctaggg gtggctgcac tccctctgcc  1860
taatcttcca tctctgccct cagctccacc gcaccgcctt gcactgggcc tgtctgaagg  1920
gtcacagcca gctggtgaac aagctgctgg tggcaggtgc cacagtggac gcgcgagact  1980
tggtgaggat ggggaaaggc ccagcctctg tcgacgccc agcttcacat cccagcagct  2040
gagtgcttgg gtgcttttgt tttgcagctg acaggacac ctgtgttctg ggcctgccgc  2100
ggaggacatc tggtcatcct caaacagctg cttaaccagg gagcccgggt caatgcccgg  2160
gacaaggtga ggggcacggt gctttggggg cctgtcggga acacgggagc agacgctgtt  2220
cctggagaag agagcacgta gtcccatggg ttagggaggc ctcaccaatc cagacccagc  2280
actgaccccc acttgctctc agatcgggag cacccccctg cacgtggcag tgcgcacccg  2340
gcaccccgac tgcctggagc acctcatcga gtgtggcgcc cacctgaacg cacaggataa  2400
ggtaaggcag gcgcttggtc ttttccggct cggacagctc cagaggagca gggactgagg  2460
agccccagcc aggaccagag gtgctgtctg ctcggtgaca gcagccctga ccttcctgca  2520
tgaggagggc agcacgcgga ggcagaagct tgactgcctg cgttctcagc aggaagggga  2580
cacggctctg cacgaggccg tgcggcacgg cagctacaaa gccatgaagc tactgctgct  2640
ctatgggggcc gagctggggg tgcggaacgc ggtgagtgtg ggcgcagccc tggctcctga  2700
cccgaggggcg ggtggagcgc ctgcaaggga ctgacccaca ccgttgctcc caggcctccg  2760
tgaccccggt gcagctggct cgagactggc agcgcggcat ccgggaggcc ctgcaggccc  2820
acgtggcgca tccccgcacc cggtgctgac cgcagcaccg ccccccgccg cgcctttcgc  2880
actgccacca ttccatcctg tgccccgccc ccgcgtctgc acctctgtgg ttcctgccct  2940
cagccctggt tcctccctct ctggcctgtg ccgcctcagc agccctggca gaactgaaga  3000
gcggcaccgg gcccagcagg caaagagaga ggcctccctg gcttcgagtg tcaggggagc  3060
cgcgttccct cccagggctg gagcagagga ccacaaggca gcagaaagcg cgggtccaga  3120
tgagggccag gaaggggagg agagtgaggg ccaagaacga gccttaaggg agcagtccca  3180
agctggagc acccagggct gggtctggga gtcctcagtg tccacttgtc ccaggttagg  3240
gggcttgcct tgctctctcc agggccagtc tgtgtgtgtg gggactcagc ccgtggccgg  3300
cagatgccat ccaggatgta caaggtgcag ccaaggcagg ccatgcaggg gccgggcctg  3360
```

2890

```
tctgcagctg gtggatgcct gtgggcatgg ctttctctgg ggaccccatt cctgtcagta   3420
gcaaccctgg cagtgtccgg agcggctcta gacaactttg gtcataggaa ctctggaggt   3480
gggttctggt catctgaggt ggctactcaa caggtttgag gccccacagc aacagaagtc   3540
caggacccac taggttgcct cagaagccct aagactgatg agctggagcg cgcatttgag   3600
agaagcctcg cacccactgt gtactggccc cgctcaggcc ggcctggcac accgttgcct   3660
gctggcggct ctcatgggga agcgcctggg cactggggat tgcttgtggc ccactcaact   3720
cttggggcag tggcccgtaa ccctagtttg cctgaggccc ttatgtcccc ttatgttcct   3780
ggtactggag cttgagctct tgcctggaac gctgcagctg cacccaccct gcttgatccc   3840
acctgggagg ccaggacact gaggagctct gaacccagcc cacagggaag cagaggaagg   3900
tgagcccccg ccgcccccca gcccttccca tcccttccct gctccctggt ggtctaagga   3960
cccaagctcc ctagacttcc tcttccaccg tctgtacgtt tcaaattaca ctggtgtagg   4020
cctgtactgc tggtggggct gggcccctaa acgccagaaa gtgaatctta agaagctctg   4080
ccctaaactg agaaccacat gctgagggaa gggctgaaag gtgaaggctc agcctccctc   4140
acatgggtcc tgggttacat taggtaccgg gctgattgat aggcatttgg ccatggttcc   4200
ttttcgtcta cctttggggg ccttctcagg cccagaacaa ggctgttgtt actatgtgga   4260
aaagctgacc agtgctgcac actaggggca cacacctttc catgagcagc tcctgccctg   4320
tggcgacagc cagcgtgcac ccagacgctg gtgccatggc gaagcaggcg ttcaagacca   4380
tggagaagac aactcctcat ctagaaaatg aggacacctc agtgacaaac acacctttt    4440
ataccaatca gtatcctctg ttcattaaaa ctggctatcc attacagcct agccgtcttt   4500
cctgggccga gaggagccca tgcttcagtc accagggact gtctgatagg cccacgcct    4560
gttagccatg ccggccgaca gcaagatagg ccgagtgcag agtgggcggg atgcggggtc   4620
ctggcactag gcttttgtgc ttaaggcacc tctgctcact gacgacaagg tcaaagagca   4680
gtggttctcc acctcagctg cttatcagaa tcaccaggaa ggtttaaaaa gtcctgatgt   4740
ccagaccta agtcagaagc cctgagggga ggatccaggt attctcatgc agaggccatg   4800
cttgtctatg tgggaaatcc taggaatcta cagaaagcag acaactaggg agtccagcaa   4860
aatctcgggt gcaagataaa cacacaaaaa cctgtttcta cctcctagaa atgaacatgt   4920
agacacaaaa gttaaaaata tgtactgttt acaattgctg aaaaagggaa atacttcggt   4980
ttaaatctaa caaaatatgc aaggacttgt atgctgaaaa ttataaacg tgatgaaatc    5040
aaagatttaa atagacatgc catgttcatg gattgctaga cagaatacag taaagatatc   5100
aattctcctc aaattaacat acaggttaaa tgcagttcct atcaaaatcc tagaagatgt   5160
tttgtagatg tagacaaggt tattctaaaa ttcatataca aatttatagc aaaaatattt   5220
tgaaaaagaa tagagtgaga ggaggaatca gtccagctga tttcaagatc tactatatag   5280
ctatgtgaac caagagtgca atgctggcag aggcacagac acacagatcg acagagccga   5340
gatcatcacg ggaacaggac cacacaaata tgcccagctg actttaaggt gcaaaagtaa   5400
ttcaatggag gaaggacagc ctttcaacaa acggtgctgg agcagctgga ccagctatag   5460
gattaaaaaa aaagaacttt agcctaagtc ttacacatta tacaaaatt aacatggctc    5520
acatgcatac ttaaatttaa aactataaaa cttcttttag gaaaaaacag ataacctttg   5580
ggatctaaga ctaggtagag ttgttcttaa atgcaacact aaaagcaaca gtccataaag   5640
gaaatatcag taaagtggac tttatcaaaa ctgaaaactt ttgctctgta taaaaccctg   5700
ttaagagggt gaaaagatgg ccgggcacgg tggctcacac ctgtaattgt agtactttgg   5760
gaggttgagg caggcagatc acttgagctc atgagtttga gaccaggtgt gggcaacatg   5820
gtgaaacccc atctctataa aaaattagct gggcataggc tgggcatggt ggctcatgcc   5880
tataattcca gcactttggt aggctgaggc gggcagatca tctgaggtca ggagtttgag   5940
accagcctga ccaacatgga gaaacccat ctctactgaa aatacaaaat tagccaggcg    6000
tggtggcaca tgcctgtaat cccagctact cgggaggctg aggcagtaga atcacttgaa   6060
ctgggaggcg gaggttgcag tgagccgaga ccacgccatt gaactccagc ctgggcaaca   6120
agagtgaaac tacatctcaa aaaaaaaaa aaaa                                6154
```

<210> 5995
<211> 452
<212> DNA
<213> Homo sapiens

<400> 5995
```
ctgggaaatg caaatgaaaa accaccgtga ggcatcacga cacacctgtc agaacggctg     60
aagtaaaaac atgtggacac cactaagtgc tgtggaggat tcagggaaac tgatcatcct    120
aggttgccgg tgaggacatg agtttgacag tttgtggcca ggtgcggtgg ctcacgcctg    180
taatcccaga actttgggag gctgaggcgg gcagatcacg aagtcaggag atcgagacca    240
tcctggctaa catggtgaaa ccccgtctct actaaaaata caaaaaacta gccgggcgtg    300
gtggcgggcg cctgtagtcc cagctatggg gaggctgagg caggagaatg gcatgaaccc    360
```

gggaggcaga gcttgcagtg agccgagact gcgccactgc actccagcct gggcaaaaga   420
gtgagactcc gtctcaaaaa aaaaaaaaaa aa   452

<210> 5996
<211> 618
<212> DNA
<213> Homo sapiens

<400> 5996
cctgtctgcc agcagcagag tccagcaatg agccctctat atggcactgt tccttggggt   60
gttcagccag ctacctgtgg caggttgatt acattggacc acttccatta tggaagggac   120
aggatttgtt ctctactgga atattcttac tcaggatatg gatttgcctt tcctacatgc   180
aattcttctg ccaagagtac catccatgca cttgcagaac tgccttgtcg actgccatgg   240
tattacacat agcattgctt ttgaccaagg aactcactct acagacaaaa atgcgacaat   300
gcattcgtga tcatggcgtt cactggtctt accatgctcc ccttgatcct gaagcagctg   360
gcttgagaga gcaatagaat ggctatttga agtcataatt acaatgccaa ccaggtgaca   420
atactttgca gggctaggga aaagttcccc agaagactgt atatgctctg aatcagcata   480
tagtatatgg tactgtttct cccataggta ggattcatag gtccaggaat caatgggtga   540
aagtagaatg ggactccact cacaattacc cctagtgagc cactagcaac atttttgcat   600
catattccca tgacatta   618

<210> 5997
<211> 634
<212> DNA
<213> Homo sapiens

<400> 5997
cctgtctgcc agcagcagag accagcaatg agccctctat atggcactgt tccttggggt   60
gttcagccag ctacctgtgg caggttgatt acattggacc acttccatta tggaagggac   120
aggatttgtt cttactggaa tattcttact caggatatgg atttgccttt cctacatgca   180
attcttctgc caagagtacc atccatggac ttgcagaact gccttgtcga ctgccatggt   240
attacacata gcattgcttt tgaccaagga actcactcta cagacagaaa tgcggcaatg   300
cattcgtgat catggcgttc actggtctta ccatgctccc cttgatcctg aagcagctgg   360
cttgagagaa .caatagaatg gctatttgaa gtcataatta caatgccaac caggtgacaa   420
tactttgcag ggctagggaa aagttcccca gaaggctgta tatgctctga atcagcatct   480
agtatatggt actgtttctc ccataggtag gattcatagg tccaggaatc aatgggtgaa   540
agtagaaggg acaccactca caattacccc tagtgagcca ctagcaacat ttttgcttca   600
tattcccatg acattatgtt ctgctggctt agag   634

<210> 5998
<211> 1291
<212> DNA
<213> Homo sapiens

<400> 5998
ggaacatggg gcggggggtg ggggggggat aagtactggg gggggggggc cgaatccagg   60
cactgctggg ctgcctgctc aaggtgctgc tctgggtggc ctctgccttg ctgtactttg   120
gaagcgaaca ggccgcccgc cttctgggca gccctgctt acggcgcctc taccatgcct   180
ggctggcagc agtggtcatc tttgggccgc ttctgcagtt ccatgtcaac cctcggacta   240
tcttcgccag ccacggcaac ttcttcaaca tgtgagtcca ctcaaggctg tgggagccgg   300
gtccctgcac tctgggatcc tagctccctt ctccaggctt ctgtcctcct gccagtctga   360
acactaaaaa taggctagga ggttgaggaa aaggtcgggg gagggggaag ggaacagagc   420
cctggggtac aggggaagtt gggaacagga ctaaagagga aatatggacc ctggaatgct   480
gaattgtctt ccaaggagat agcaaaggtt aaatgactgg gggctgtaaa gggcacggca   540
aggagagaac gagtgatgat gtgtagggtt ggggagagtg cagtgatggg agcacagacc   600
agggtgggag atggagcttg gggtctcaat agtctccctt ctttgcccac agaaaatttg   660
tgaattcagc ctggggctgg acatgcactt tcttaggggg ctttgtgttg ctggtggtgt   720
tcctggctac acggcgcgtg gcagtaactg ccagacacct gagccgactg gtagtagggg   780

                                    2892

```
cagccgtgtg gcggggagcc ggccgggcct tcctgctcat cgaggacctg actggctcct    840
gcttcgagcc actgccccag ggtctgctgc tccacgagct gcctgaccgc cgcagctgcc    900
tggcagccgg ccaccagtgg cgaggctaca ccgtctcctc ccacaccttc ctgctcacct    960
tttgctgcct gctcatggca gaggaagcag ctgtgttcgc caagtacctg gcccatgggc   1020
ttcctgccgg cgccccactg cgccttgtct tcctgctgaa cgtgctgctg ctgggcctct   1080
ggaacttctt gctgctctgt accgtcatct atttccacca gtacactcac aaggtggtgg   1140
gcgccgcagt gggcaccttt gcctggtacc tcacctatgg cagctggtat catcagccct   1200
ggtctccagg gagcccaggc catgggctct tcccccgtcc ccactccagc cgcaagcata   1260
actgaaagaa ataaaaacca tcgggcctgg c                                  1291
```

<210> 5999
<211> 801
<212> DNA
<213> Homo sapiens

<400> 5999
```
ggcaacatgg tgaaatccct gtcttaatca atcaatcaat aaacaaacaa atacacatac     60
tacaataaat gtacttattt atcttgttat acttgtgctt ttattttagc agttctgaaa    120
atggcttcct tgtaagcgaa gtctatctat atttaaaatt ttaatagata ttagtaggta    180
aaaacatttt taaaaacttg attactaata aaaatttaaa atgctacacc aatttatatt    240
tctaccaata atttatagta atgtggtgca tcctatctta ccaggagtgg atgctgccag    300
tcattaaatt tttgccatcc tgggccaaaa atgatatcta attttgtttc ctttctatga    360
aaattggtat tcagacatat tccaatgttt gtagctattt acaatgcatt cttgctgtat    420
tggccattca tatctttttt attattaatt gttttctttt taaaatcagt tcataaggct    480
tttcaaaaat tcttacagag gctggggatg gtggcttgca cctgtaatcc cagtgctttg    540
ggaggccaag gtgggagaat tgcttgagca caggaattcg attgtagcct gggcaagatg    600
gcaagacccc tgtctttaca aaacattaaa aaatcagcat ggcatcatgg tgtgtgtctt    660
tagtcccagc tacttcagag gctgaggcca cagtatccct tgagtccagt aattcgaagt    720
ggcagtgagc tatgatcctg ccactgcact tcagcctagg tgacaaaatg agaccctgtc    780
tctaaaaaaa aaaaaaaaaa a                                              801
```

<210> 6000
<211> 801
<212> DNA
<213> Homo sapiens

<400> 6000
```
ggcaacatgg tgaaatccct gtcttaatca atcaatcaat aaacaaacaa atacacatac     60
tacaataaat gtacttattt atcttgttat acttgtgctt ttattttagc agttctgaaa    120
atggcttcct tgtaagcgaa gtctatctat atttaaaatt ttaatagata ttagtaggta    180
aaaacatttt taaaaacttg attactaata aaaatttaaa atgctacacc aatttatatt    240
tctaccaata atttatagta atgtggtgca tcctatctta ccaggagtgg atgctgccag    300
tcattaaatt tttgccatcc tgggccaaaa atgatatcta attttgtttc ctttctatga    360
aaattggtat tcagacatat tccaatgttt gtagctattt acaatgcatt cttgctgtat    420
tggccattca tatctttttt attattaatt gttttctttt taaaatcagt tcataaggct    480
tttcaaaaat tcttacagag gctggggatg gtggcttgca cctgtaatcc cagtgctttg    540
ggaggccaag gtgggagaat tgcttgagca caggaattcg attgtagcct gggcaagatg    600
gcaagacccc tgtctttaca aaacattaaa aaatcagcat ggcatcatgg tgtgtgtctt    660
tagtcccagc tacttcagag gctgaggcca cagtatccct tgagtccagt aattcgaagt    720
ggcagtgagc tatgatcctg ccactgcact tcagcctagg tgacaaaatg agaccctgtc    780
tctaaaaaaa aaaaaaaaaa a                                              801
```

<210> 6001
<211> 429
<212> DNA
<213> Homo sapiens

<400> 6001
```

```
gttctaatcc catttctgaa agaaagagca taaatatttg ccgttagaaa tcatggaaca      60
gtttttagat gtgttttatg ttatttgata ggttaatact ttatttcagg atttcttttt     120
gcattatcct tggcagtggc taggtactgt caatgaccag tattttttgt tctatctggg     180
gatgtgaatc caaaacaaag gatagaattg cttgtgctct gtttttctct cagttaattt     240
tttcaaaata taatcccaag tacaaatcat gcttttgagt attatagggg atcatatttt     300
tttcttataa ccttgaataa gatgcagtaa aaacagtgaa gctgaccact tttcttccct     360
atcatttagg tatgtagctt ctaccagata ttttgacatc ctgtttcata agaatctttt     420
tctttaatt                                                              429


<210>  6002
<211>  852
<212>  DNA
<213>  Homo sapiens

<400>  6002
tgctttcctt ccattttttt ttcttttatt attatacttt aagttttagg gtacatgtgc      60
acattgtgca ggttagttac atatgtatac atgtgccatg ctggtggctg cacccactaa     120
ctcatcatct agcattaggt atatctccca atgctatccc tccccgctcc ccccacccca     180
caacagtccc cagagtgtga tgttcccctt cctgtgtcca tgtgatctca ttgttcagtt     240
cccacctatg agtgagaata tgcggtgttt ggttttttgt tcttgcgata gtttactgag     300
aatgatgatt tccaatttca tccatgtccc tacaaaggac atgaactcat cattttttat     360
ggctgcatag tattccatgg tgtatatgtg ccacattttc tttatccagt ctataattga     420
tagacatttg ggttggttcc aagtcttgct atgtgaatag tgccggaata aacatacgtg     480
tgcatgtgtc tttatagcag catgattgat agtcctttgg gtatataccc agtgatggga     540
tggctgggtc atatggtatt tctagttgta gatgcatgag gtatcgccac actgacttcc     600
acaatggttg aactagttta cagtcccacc aacagtgtaa aagtgttcct atttctccac     660
atcctctcca gcacctgtag tttcctgact ttttaatgat cgccattcta actggtgtga     720
gatggtatct cattgtggtt ttaatttgca tttctctgat ggccagtgat gatgagcatt     780
ttttcatgtg tttcttggct gcataaatgt cttcttttga gaagtgtctg ttcatgacct     840
ttgcccactt tt                                                         852


<210>  6003
<211>  990
<212>  DNA
<213>  Homo sapiens

<400>  6003
tgctttcctt ccattttttt ttcttttatt attatacttt aagttttagg gtacatgtgc      60
acattgtgca ggttagttac atatgtatac atgtgccatg ctggtggctg cacccactaa     120
ctcatcatct agcattaggt atatctccca atgctatccc tccccgctcc ccccacccca     180
caacagtccc cagagtgtga tgttcccctt cctgtgtcca tgtgatctca ttgttcagtt     240
cccacctatg agtgagaata tgcggtgttt ggttttttgt tcttgcgata gtttactgag     300
aatgatgatt tccaatttca tccatgtccc tacaaaggac atgaactcat cattttttat     360
ggctgcatag tattccatgg tgtatatgtg ccacattttc ttaatccatt ctatcattgt     420
tggacatctg ggttggttcc aagtctctgc tatggtgaat agtgccacaa taaacatacg     480
tgtgcatgtg tctttatagc agcatgattt atagtccttt gggtatatac ccagtaatgg     540
gatggctggg tcaaatggta tttctagttc tagatccctg aggaatcgcc acactgactt     600
ccacaatggt tgaactagtt tacagtccca ccaacagtgt aaaagtgttc ctatttctcc     660
acatcctctc cagcacctgt tgtttcctga ctttttaatg atcgccattc taactggtgt     720
gagatggtat ctcattgtgg ttttaatttg catttctctg atggccagtg atgatgagca     780
ttttttcatg tgttttttgg ctgcataaat gtcttctttt gagaagtgtc tgttcatgac     840
ctttgcccac ttttacccca ttcttttttt ttttttttga gatggagtct tgctctgtcg     900
cccaggctgg agtgcagtgg agcgatctcg gctcactgca acctccgcct cccaggttca     960
agtgattctc ttgcctcagc ctgctgagta                                      990


<210>  6004
<211>  809
<212>  DNA
```

2894

<213> Homo sapiens

<400> 6004
```
tagaaataac tcatgttttc acagtatgta ctacttaaag aaacaatata gaataagacc      60
attagagttc taattatggc tccaccattt gttaacataa tcactctaca taaattactt     120
aagccatttc cccctctgca tattgggatt aataaataac tcacagttgt tgctaagctt     180
aaatgagata acaaagtcat tagctcacca tcatttgtat atacagtcat tagcaaatat     240
ttactgagta aattctgagg gatacagtgc tttgcacatt ataaaaagt caatacattt      300
tatagcattt tgatagtcct agacctagaa agtacttgtt ggggtcacat tgatgccaaa     360
tgaaaggaaa agagaagggg gttctaatcc catttctgaa agaaagagca taaatatttg     420
ccgttagaaa tcatggaaca gtttttagat gtgtttatg ttatttgata ggttaatact      480
ttatttcagg atttcttttt gcattatcct tggcagtggc taggtactgt caatgaccag     540
tattttttgt tctatctggg gatgtgaatc caaaacaaag gatagaattg cttgtgctct     600
gtttttctct cagttaattt tttcaaaata taatcccaag tacaaatcat gcttttgagt     660
attataggg atcatatttt tttcttataa ccttgaataa gatgcagtaa aaacagtgaa      720
gctgaccact tttcttccct atcatttagg tatgtagctt ctaccagata ttttgacatc     780
ctgtttcata agaatctttt tctttaatt                                       809
```

<210> 6005
<211> 58742
<212> DNA
<213> Homo sapiens

<400> 6005
```
gggctgtcag ccggcctagg aggaggaagg agcctgcggc gtgcagtgtg aggggcggga      60
cccggctgcc ggcggtgggt ctagctgggg gaggtcgggc catgctggtg ggccagggcg     120
cggggccgct ggggcccgcg gtggtcaccg ccgcggtggt gctgctgctg agcggcgtgg     180
ggccggcgca cggctcggag gacatcgtgg tgggctgcgg tggcttcgtc aagtcggacg     240
tggagatcaa ctactctctc atcgaggtga gcgcccgccc cgccgcccgg cgccgagtcg     300
ccgggccggt ggttcagcct ctctgggccg cgctggcctc gtctctgaca ccgggcggtg     360
tggagtcctt ggagcccta cctcttccga ggctatgctg tccgcgggct ccctgcagcc      420
cctccccagt cgcgctggag gggaggttct tatcatgggg tcgtctaagg actgaggggt     480
gccagacctc aggttcttca aaaccccgac tccagatccc cggaacacag accccagatc     540
ctcaaaaccc agaccctaaa ttccctggag cccagactcc atttctttaa aacttagacc     600
tgagatctcc tcgaatcaga cccctgaaa ctcagatttc cccaaaccca cattccagaa     660
cctagagacc acatgtctta tcccccaaac tccacagccc agaacccccc gaagttctaa     720
tccactgctc ctccaaaccc cgcggcatga ttttaaagag catcaattcc catcccatag     780
attctgacct agtagatcag tattggcaac cctggggccg gaaagctatt ttttatttct     840
ccggctcccc tccacttctg aaaatggaga gttgccagct gccctgattg ccttaatgag     900
tagttaatgg aattacccta gagatttgtg ctgaaggttt ttttttttt ttttttaaa      960
ttaagttgta aagtcctgtt aaatgtttat cagcccggtg ggattatgac ccagaaaggt    1020
tcccgtaaag aggaaaggga tggatggagg taggggcaga atgtcatttg tcccggtaga    1080
tgggagggga ccagagcaag gcctgggcct catttttggg aggggattta ggtgggggta    1140
ggacaaggaa gaggaaaaga gcgggtgcct cggaggtaat ttaggagaaa acgaaggaag    1200
aggctgggaa atgccaaaga gagggattgg ggaataagac cccaaagatc gtctgaaagc    1260
acctttgagc tgttccaggg ctggcagtga agggtgaagc tctgtgttct gcaaagcggg    1320
ctgctgagga ttgggggagg ggtaggggagt cagttccaca ccccaccagc tctgcgacct    1380
gcccttgctc taggtttcag tttttgtacc tataggatgg tgttgggaga gaaacagtgg    1440
aacccagcag atacatttct ttaacaagcg gatccgtgat cttcttcaag gccccttgt     1500
ttgctgcttt ttcagactga agaggtcaga ggtcaggcat tgaatgaatc tacccactgg    1560
cagcggcagg gctcctagga tttcctgggt acatgtttct gggtgcccat gccacctcct    1620
aggtctgcac tggggacagg acacgttcag ggtggtatgg ctgtagacgg cacagggcat    1680
ttcagaagct gaaatgcaag aggccgctaa ggcctcttgc aacttgtagt ttccaggggt    1740
tctggaagga aggaaaagac aggcacccc ctccaccctc accctcatac taatagtgac     1800
cttgagagca gagaacaggt tttgtgaccc atttcaaagt gtgttcctta agcccaaggg    1860
ctgcctgtcc agatggtgtg ggacactcat tctttcataa gtaattcaga ttctgaaatc    1920
agacatttca tactggccat cttgatgtag attacattgc catcctgtgt cctgattgta    1980
ctttatgaaa gatgtagaaa taatcatgat atttcacggt tatttcttga ttgtgttttt    2040
tgtgttccta tgcaactgcc gccattcttc tctagctttc tcccatcctg agtgtttta     2100
catcgtgttc attgagtcaa caactattta ctgagccccg gcacatactg aagccttgtc    2160
```

2895

```
cccagtgtgg atatagcagt acagtgaaca gaacagacaa aactccatac tctcatgaga   2220
ctgacatttt gttctctaac agggacctta ctgttaaaaa aaaaaaaaat tatactggtt   2280
gctaatactt taacaatcag caggtttcac attaaaaact gggtgcttta tttctctgga   2340
aaaccagcca atctttaggc tgccacactt ggcttgggtt ttgtagtgat ctgaatcctt   2400
ttggatgaat gtcccttgat gttgcctccc taaccggtct agtctggtga atttccagtc   2460
cctgccttaa atgcatgcat ctgaatctct ttgtcacctg tagcaaattc actgagtacc   2520
tagagtaagc tagacactgt ctcaggcact ggggaatgaa gttgtcactg acctcagaga   2580
actttacata caggcttaac cttatttcac acgagtcctt tcccaaatgt tcaaatgttc   2640
gttttatgag ttagtcactt tgtacatcat cttagctggt gagattcgac tgtttcatag   2700
cggctcgtgt catggtttgt ttcatggtca tagagcatta acattttgga ggtgaggctt   2760
ttaggtgcat cagacccaac tgcttccttt tacagacatg gaaactgagc ctcagagtgg   2820
ttgagctgtg caggtacatt taggaaattt tccttgagcc cagtatgttc cctacgtatt   2880
acactgtgtt gcctttttct tcagagagag atattaaata gtgatacaaa ctgctttttc   2940
cattttactt attttatttt gttttatttt gaggcagggt ctcacactgt tgctcaggct   3000
ggagtatagt ggcaccatca tagctcacca aagcctctga ctcctggcct caagcagtcc   3060
tcctgcctcg gcctcctgag tagctgaggc tacaggcacg tgccatcatg cctagctaat   3120
ttttttttcta gtagggatga ggtgtggctg tgttgtccag gctggtctcc tgggctcaag   3180
tgatcctcct tctttggcct cccaaagtgc tgggattaca ggcatgagcc accatgcctg   3240
gccgcaaact gattttttctt tgaatccata ttctgtagca ggtgcttaat atgcattgat   3300
gtgaatctgt acaaccacat gaaaaggagt ggctctatgt ctgcacctga agaaaccgaa   3360
cacgagcttg cccaaggcca cgcaacacgt ggaagactca gatggcattt gggcatctta   3420
ctgggttaac acttcgtgtc tggtaatgct cagaatgtaa gagttttaga gagtccttga   3480
agagaggaca gatattaaat gtcttttttag tctcttttttc ttcggagaat gaaagtaatg   3540
agaaaattaa gtttctagat gaatgttgct ccaagtattt gaaattattc agagttagta   3600
aggaagattt ctggccctca ttgcagacct ttagttgaga aatagaggtg ggccccagga   3660
atttgcaatt tattttactt tattttatta ttatttttga dacggagtct tgctctgtct   3720
cccaggctgg agtgctgtgg catgatcttg gctcactgca acctccgcct cctgagttca   3780
aacaattttc ctgcctcagc ctcccaagta cctgggacta ccggtgcctg ccaccatgcc   3840
tgggtaactt ttttgtatt tttagtaggg acagggtttc accttgttgg ccaggctggt   3900
ctcaaattcc tgaccttaag tgatctgccc acctcaccct cctgaagtgc tgggagtact   3960
ggcatgagcc accgtgccca gccaggaatt tgcatgttaa taagcacctt actaatggca   4020
aagtttgcaa atttgtttta gacccggaaa cttacacgag caacctagag gcagccacta   4080
aaataaacag aaaagcattg aaaaataagg cattgtaata ggctgtaggt ggtttctaat   4140
ctgaaaaaca ttgagtcaca tgatttggga gagagtttgt tgatttccct ctgtccccag   4200
taatgccccg tgttaaaagc tggcatataa taggtcctca gtgaatgtat actgactgag   4260
tgcattcagg tgtaacatgt gtagttaatt cccaaaggca atgttatgat ttctgttttc   4320
cttccttcct ttccagataa agctgtacac caagcatggg actttgaaat accagacaga   4380
ctgtgcccct aataatggtt actttatgat ccctttgtat gataaggtaa gaggggactg   4440
cttgtcactt atgatgggaa gtcactagtg tgcctcacca ggctgcatta accatgtcct   4500
ttcctacact agcaaatgct catctgtttt gtaaattatt agtggaatat gataatccta   4560
gccacatttg gagggagaca acttacaaac tgccttgacg aatacagtgg ctctctctgt   4620
gtttaggacc atttggcaat gtctagagac gttttttgttg tgacatctgt ggctgtgcgc   4680
tacagtcacc cagtgagtag tggccaggcg tggagctaaa tgtgctacag tgctgcctac   4740
gacagcccag atgtcagtag tgccagggct gagaaactct gatttcatgg aacccgttac   4800
ttgcaagcag cttaaagtat tgttaaaaaa attgtacaag taatacatga attcatgaac   4860
tttgtgaaaa agaaagtcaa ggtctttaga agtatgtgaa ataaatttgt acccttttcg   4920
ctccaatttt acctccctct gtagtgataa cctctgataa tctgataaag gttttttttg   4980
ttgttttttt ttttcttctt ttgagttgga gtctcgctct gtcgcccagg ctggagtgca   5040
gtggtgtgat cttgcctcac tccaacctcc accccccagg ttcaagccat tttccttcct   5100
cagcctcctg aatagctggg attacaggca tctgccacta cacccagcta atgttttgta   5160
tttttaatag tgatggggtt ttgccatgtt ggctaggctg tctcgaact cctgacctca   5220
agtgaaccac ctgcctcagc ctcccaaagt gctgggatta caggtgtgag ccgatgtttc   5280
cggccctctt ataaaatttt gatgtgcatc ctaacagatt gctttctatt tatagttatt   5340
cagatatcca cgggtacaca tgcatatgta tatatggaaa tacacacaag cacacatgca   5400
catcgatatg tatccacaaa cacctctata caatcccatc ctcccacata taaacctttt   5460
atttggaaat acagattcat aggaagttgc aaaaatagtc aatacacata gttttgattt   5520
tgatatattt tttaatacaa atgaaatcaa acaataggat ttattctgca gtttcatttt   5580
ttcccctgtg ttaatgcttt caataccaga gggacatttg gtttttttcct cttgcatgct   5640
ttcaacatta gcatagatag atctactgac ttttttttttt tttttgaga cagagtctca   5700
ctctgtcagc caggctggag tgcagtggcg cgatctcggc tcactgcaac ctctgcctcc   5760
tgggttccag tgattcttct gcctcagcct cccaagtagc tgggattaca ggcacccacc   5820
```

2896

```
accatgccca gctaattttt tttgtatttt tagtagagat ggtgtttcac catgttggcc   5880
aggctggttt tgaactcctg acctcaggtg atccgcccac ctcagcctcc cagagtgctg   5940
ggattacagg catgagccac catgctcagc ctactgactt ctttttaatg gctgcatagt   6000
gtgtcagagt caaacccaaa ctgtaattta tttaactact tggacatata gactttcccc   6060
aattttaaaa taatagtaat tttaacataa cacaccagga aatattcttg aacttaactc   6120
ttcatccaga atgcatagga ttgatttcta gagatggact agctgggtct gtcctgaaat   6180
ctatttaatt aatttttaaa tagtatcagt atcagtctca agaaaccagg aggctggacg   6240
tggtagctca tgcctgtaat cctagcactt tgggaggttg aggcaggtgg atcgcctgag   6300
ctcaggagtg tgagaccagc ctgggcaaca tggtgcaacc ccgtctctac taaaatacaa   6360
aaaaattagc cgggtgtcac gtggatgcct gtagtcccag ctacttggga ggctgaggca   6420
ggagaatcgc ttgaacccag gagacggagg ttgcagtgag ccaagatcgc accacttcac   6480
tccagcctgg gcaacagagc gaggctccat ctcaaaaaaa aaaactaaa acaaaaacag   6540
aaaccagggt tgataagtaa aatctagttt tatttattga attaatgagt taacgtattg   6600
tttagagaca ggatcccctt ccgctgccca tgctggagtg caggggcaca attatggttc   6660
actgcagcac tgacctcctg ggctcaagtg atctttctgc ctcttcctcc taagtagcta   6720
agactgtagg cgcctgccac cacacccagc taattttta agaacatttt ttgtacagat   6780
ggggtcttgc tatgttgctt aggctggtct tgaactcctg gcctcaagtg accctcctgc   6840
cttggcctcc cacagtgttg ggattatagg tgtgaggtac tgtgcctggc caaatctagt   6900
tttagggggt gcctttagtt cctgaagata catgctaact tgtgcaactg taggcatgtg   6960
agggcttaat gggagactca attaatagaa ttatagtatg tttagtatta aaagacagtg   7020
agtggctgaa cctagtgtct ttagaactca tgaatgggct tcagcactgt cttctgattg   7080
tttagatgaa aacttctggt gttcagcttc agcttgtagc ttctgaagag aatcagtgct   7140
cagtaccatg tagaagaaca aggcttactc ttagaatttc atttccggtg taaaaaaatt   7200
ttagattaaa tgataacact aaactaaatt tagccagagt cacaattctc atttcttgaa   7260
attacatttt cttttttttcc ttttaggggg atttcattct gaagattgag cctcccctag   7320
ggtggagttt tggtaagtta actgaatcac tagacattct ttgtaaaaga ttagatgata   7380
tgccgaatat taatttaggc tagcagagtg cataaactat taaaatatta aggatcattt   7440
ccagtatgga agaggggttg tattcctccc ctccttgccc ccatcactct ggtttagttc   7500
ggatttacct taatctacct caagactttc tgtcaccttt gaaaaataga catcttttct   7560
tctacctttc tggaaactct tcccttgcag tttcactcat tacgtggccg tggaacagta   7620
tagaaatcaa gagtggggac ttggttccca tcccaggatg gcttcttttt tagccccctc   7680
agttttttaa gttttttatgg aattaattga aacatttaaa gattgtgaga tttgtcataa   7740
aaatccagat ttatgtccca tgagatgaga agactgtcag ccttatacct taccagttaa   7800
ataactttgg gcaagttact tcccccgtgt cagcctggct cctcactgtc gagcaagggt   7860
agttatagtc cctgccccac tgggtacttg gaggattaat aaaccaatac tgagtgttca   7920
gaggggctgg cacgtaatta gcaagtactc agtattcaga aacagcccct ctgcacacat   7980
cccaacaaaa gctccaaact ttcctcatat aactgccttc aagcatagct ggggagttgg   8040
ggatggggtt gagatcagaa gagagggtct gttttgatgt agtttacatt tttgaagagg   8100
agagactctt gatgtttcag tagagcaggt gtgggtgacc ccagtccatg gcttggggag   8160
aggagtaggg atcaccgttg ttgatatcag gcttgctcgt gcattagaca aggaagaatt   8220
tagcacctgc catcaccaag gctaaaatga ggctcaggca gctgacagct aatttggctc   8280
tgtgagagca gctcttttat cagtttatag tcaggggtag ggtgggggt gcctggctgg   8340
tacgttccag aaagctggag aggaatgcag ccctgctcat ggccaaagca gaagtccaga   8400
ttggtggcct ggaggagtgt tgtgtttgcc acccccacc ctaccccaa ctggtgctgt   8460
tgataagctt tttaattgaa ttatactttc agaaaagtgc cttggatgaa ttttcactaa   8520
gtgaacacac ccatgtatcc accatccaga taataagata gcacttcacc agcaccccag   8580
aagtccccat cctgggtgct cattagccat cccgccccac cctccaggtg accaccaccc   8640
tgaccttcta caaattagag atccatttgg tctgttttga actttataca aatgctatca   8700
tgcagggaac ttttaatat ccggtttctt tcactcaaca ttatgaactt tatctgtatc   8760
atttgtagct ttagttcatt ctctttgctg ttgagaattc tgatgcataa atataaaatt   8820
atttatattt tataaaatac ttatatttta ttttattttt ttctttttt tgagactgag   8880
tctcgctctg ttgcccaggc tggagtgtga tctcagttca ctgcaacttc tgcccgggtt   8940
caagcaattc ttgtgcctca gcctcctcag tagatgagat tacaggtgtg caccaccaca   9000
cccagctaat ttttgtattt ttagtagaga tggggtttca tcatgttgac ccaggctggt   9060
ctcgaactcc tgacctcaag tgatctgccc gctttggcct cccaaagtgt tgggattata   9120
ggcaagagcc accacgcctg gcctatattt atatttata ttcatatttt gtatcagtga   9180
tctcttctac tgttgatggc catttgagtt gcttaccgat tttggccact aagagcagtg   9240
ctcctgtgaa cattcttgta tgtatatttt gatacatgtg tctgcatttt tgctgagtat   9300
atcacaggag taaagtcgct gagccataga gctgatacat gctcagcttt aggtgtttgc   9360
aaacatccaa agtggatgca ccagttgtgt ttctcccagc agtgtacaag ggtttccatt   9420
gctccacatc ctaacctaca cttgatatcg tcagtttttt ttaattttag cccttctggt   9480
```

2897

```
gggggtgtgg tattatctca ctgtggcctt gatttacatt ccactgatgg ccaatgaggt 9540
tgcacacttt ttcgtatgtt tatgtttgtt tgccatgggc tagctatttt tgtaagattc 9600
ctgttcaagt cttttgccca ttttttattg gagtctttgt gtgtgtgtgt gtgtgtgtgt 9660
gtgcatgtac gcgtgcaagc acgtgtgtaa ttcatcttaa ctgaaaatct catctcatgg 9720
tttttccattt ttttctctac tcattactcc atattcttcc taacctttca aaaactcaac 9780
cttaacccct attatgatga actcttcagt taaaaaatgg agttaattgc tgatattgaa 9840
aaatcaagag atggtatata aaatccagat ttccagtttt tcggagaagt tggaagctct 9900
ggcaaagcat ggtagtggtt ggcagacttg agtggcagtt gtctcctttc aatttgccac 9960
agtcccctg aggatgctcc gctcacttcg aacccatgag gcccctgtgg ccctggagtt 10020
tgtgttcctg gtttaacatg gctgagctca tgtccttggt cagagaacag atccagagcc 10080
agactttag ggttgaattg gggctctgtt actcagaagc tctgtgatct tgggagctcc 10140
tttaaccttt ctgtgcctta atttaccccct cagtaaattg cagctattac tgcctgtctc 10200
ttaagataat tgtgaggatt aaaggcactc agctcagtgc ctggtcggtg atgagcattc 10260
aggaaataaa attatttggt gctcactgaa ttttcactgg aactctgaga tataacttag 10320
ctgaaaggcg ttgtaaaatt attttatact ctaaacacga attccctctg gggcaggaaa 10380
ccaggaggct aggggggatag gggtgagagg gagactttttc ccagaatact ttttcgtacc 10440
tttggatttg gaaacacaac gagtgtatta agtgttcaaa agtaaaatga aacctgaata 10500
ataaaaatac gttctactta ggttcactgt accccaaaac taagcttgcc tttgtgtctt 10560
gtgccccggt ttcctcccct gcttcgttcc tcagagccga cgaccgtgga gctccatgtg 10620
gatggagtca gtgacatctg cacaaagggt ggggacatca actttgtctt cactgggttc 10680
tctgtgaatg gcaaggtttg tctttggaac ttgattatt ttcctgttca ctctataatg 10740
tatactaaat cctttttttaa aaaaatgcag gatatttttaa cctgggggact ttgatcccac 10800
aagggaccca tggataagtg gcaagtgagc ctgtgaactc tgtacttcat ccgtgtagaa 10860
cacagcaggt gtatttagga atgagattga ggttgctggt catcccctct gctcccagag 10920
cataggctgt tggtgtttttt attttttttat ttttttatttt gagacagggt cttcctctat 10980
tgcccaggct ggagtgcagt ggtgcaatct tgactcactg cagcctccac ctcccaggtt 11040
caagtgattc tcctgcctca ccctcccgct ccttcacccct cccgagtagc taggattaca 11100
agtgtgtgcc accatgcctg gctaattttt gtatttcag tagagatggg ctttttgctgt 11160
gttggccagg ctggtctcaa actcctgacc tcaggtgatc cgcctgcctc cacctcccat 11220
agtgctggga ttacaggtgt acgctgtgca cccagccgct gttagcgttt atgtcaggga 11280
tggcctttta cagggatgcc gaattggaag gacacactct ctaagccttg tggcatcttg 11340
ctgtccctgt gggtgaattg aagtcagctt ctcccagaga gagcgtgcat ctgcttctga 11400
cacttacgta ggaggattcc tattatttaa gttctgagat tttttttggac cgccacggtg 11460
gtgtgaattt agagtcctaa cgggtgtgtg cccagctccc gtgattcaga ttctcagggg 11520
agagtcattt ctcctccacc cgccctgtgc ctgcggttga gatgtgcttc cttccttcct 11580
gtccttctct tcatgatgga cttctttctc ctctacctttt gcggtgacgg ggaggcccctt 11640
ccatcccagc tgtatgtgtg ggcttcttgt tagagatggg gatcttgggt agttttttct 11700
ttatcgatgg tttgcaaaat aatggtgaac cttttttttat ttttattttt atttatttat 11760
ttttttgaga cagagtctcg ctctgtggcc taagctggag tgcagtagcg cagtctctct 11820
caccacaacc tccacctcct gggttcgagc aattctcctg cctcagcctc cccagtagct 11880
gggattacag gcgtgtgcca cctgacccag ctaattttta tatttttatt tttatgtaca 11940
tttacttttt ttttttttttt ttttttttta agatggagtc tccctctgtc gcccaggctg 12000
gagtgcagtg gcgcgattgc agcttactgc aacctccgcc tcctgggttc aagtgattct 12060
cctgcctcag cctcaggagt agctgggatt acaagcatgt gccatgacgc ccagctaatt 12120
tttgtatttt tagtagagac agggtttcac catgttggcc aggctggtct caaactcctg 12180
acctcaagtg gtctgcctgc ctcagcctcc caaagtgctg ggattacagg cgtgaaccac 12240
cacacccacc cagaccaata atggtgaatc tataactgat gatgtcttag attcattgaa 12300
atagagtctt atttttactgt tactgttccc tctcctacct catccccagg aaacatatcc 12360
atgatttata gcatctttttc aatgggattc ttgacccaaa gagggttcct gggctccacc 12420
tgggagttgt aagcaggact gccagtgctt tgagaggagg gtgctttgct gggtgggccc 12480
taactttctt ctccatggca ggtcctcagc aaagggcagc ccctgggtcc tgcgggagtt 12540
caggtgtctc tgagaaacac tgggaccgaa gcaaagatcc agtccacagt tacacagcct 12600
ggcggaaagt gagtagcgtc ctgtctctta gtgttgcctt agagccgggc tctgacaggg 12660
gtcatggagc tgggtttggg agtttggcat tcagggagtt ctgggttcag atcctgattc 12720
agcctcttaa gtttgggtga gttcatgccc gtcagagtgc tgagttcccc acatgtgaaa 12780
tggaatccat ttgacccatc ttgcctagca ttgatgagat gattaaatat gagttcatac 12840
tggccaggca tgttggcttg cgcctataat gccagcactt gggaggcca gtatgggagg 12900
atcacttgag ttcaggagtt cgagaccagc ctggacaaca tagggagact cagtctccac 12960
aaataatttta aaaaattata tcaagtagag tcccacgggg gaagaaaatt agctgggtgt 13020
ggtggcatgc ttctgtggtt gcagctactc gggaggctga ggcgggagga ttgcttgagc 13080
ctggaaggtt gaggctgcgg tgagccgtga tcatgtgcca ctgtgctcca gcctcggcag 13140
```

2898

```
cagagcaaga ccctgtctga aacaaacaaa aaaagagtta atacccataa agcacctgct  13200
tcaaggcctg gggcttagtg ggtcttcatt tagcagctca gcctggctct ggagcctgcc  13260
agcccgggct tgaatcccag ctcccccatt tgctggctgg ttgacctagg gcaagttcct  13320
taacccctct gtgcctcagt ttcctctttt gtaaatgaag ataattgtgg aacctatctc  13380
ctaaggtact ggaaagatga aattaatatt attacttcaa gctgcctggc atattagctc  13440
aaataggtta gctcagttat gattagaaaa aatcattatc attattatat caaaactgct  13500
ttgtagttgg aacagatgcc tagctgacct tgctgagtca gatttaaagc atttatttaa  13560
tggatgtata tagttgagtt gtaaatgtta acagatatgc caagattaat accagaatag  13620
ttcaaactga taattccgaa agcgttcaaa tcattactaa ctccgttaat atacaaactg  13680
agtaaattgc aaaatagaag tttataatga gtctgtcagt aagttattca atttttaaagt  13740
tattattgtt gaaactagtt ttcatttttg aaataacatt tacttctgct tgactggtgc  13800
ctctccaggc ctggtgtgta gcaggaatat ggagctgtaa tttttttttct gggctagtaa  13860
tttggtgttg accttactag aaaaaaatag tgtcttgagc cttctgaata cctttcatct  13920
gcactaactg aaacaatgaa acatgtagca ctgggctatt atgaaaatga aatagaagct  13980
caatcttacc aatacttgta gtaatgtgat ttccaagacc tatccagtta ttgcaggcaa  14040
gatttgacac aataaaatac cacagaagaa gaaatcaaat gcgttttcta gttcatttca  14100
ccggacttag ccttctcatt tgtcagttgc cttacaaatt tgaagggata aacatgttag  14160
tatactggca gcagcatttc cagctttagc tcggctcact ctggtgttag tctgtctatg  14220
gctagtagag taattttcat cagctgctgg tttcttatct cagttgcttt gtgcaaaaac  14280
ccagaatgac ttatctgtgt ttctctaaag ccttttttct gggattcaaa gcttatcata  14340
gtttaccctg ccctgtgtca tttgcatcat cttgggtcag cgtcccctc agcctgtgca   14400
tctgttctgt tctttttcac cccacttctc ccttcccatg tgtttccttg gacacttctg  14460
tccccttctc cttgtcagtt catgcctgtc acctctgtca aacccagtcg aatgttctgt  14520
gactggtccc tgctgtgcta caaggattgg ttttatgcca gaaatccttg agattaaggg  14580
agacgtaagc actcctcttt ccgatcagca catggagcac ccctcttggc acacagtaag  14640
tgctcaataa gcgctctttt atgcagattt gtacagtgaa ggattgaatt tcattcatgc  14700
tcatttaaca agctaatgga agtttgcgat aattccaaca ttgtttctt gtgctgccaa    14760
cattagtcat agaattagaa atacttgggt tgtttggaga aagttaaatg gttattttt    14820
atgtcttagg tttgcatttt ttaaagttct gcctggagat tatgaaatcc tcgcaactca  14880
tccaacctgg gcgttgaaag aggtgagtga cagctacgtc tatagccatg ccaataatat  14940
gctggtcttg ggacaaatgt agggcttttc aatttaggat atgaaaagaa tttatggttc  15000
ctccaggact agatgaagaa ccaatggtgc tgttgtttag tttggtagtt atttataagg  15060
tgtaactcct cactgtagca gatgttgctt gtgttagttt cagtttagg tgacagtgtt   15120
gtcttcctgc tgtgaaatag atctgtttta ttaactatag ctattttaaa ctaaatcaac  15180
aacagaaggc cctgacgaga tttatttgtt gttctttttt cagcctgaaa cagaaatctg  15240
taaatatact aaacattcta gaaactgtgg tacgcgtgac caaggagaat gtatgagaat  15300
gtttattgca gctttgtttg taatagcaaa atattgtaaa caacctaaat gcctttaag   15360
agaagaatgg attggggttc catcatacaa taggctgctg tatgtcagca gtaatgaatg  15420
aaccagagct acatatatca atgtaactac atttaaaaac agagttgaag gaaatatgat  15480
tttaaatact tgtgataatc atttatggat acagtctttt tttttttt tttttttaa     15540
agatggagtc tcgctctgtt gccaagactg gagtgcagtg gcatgatctt ggcttattgc  15600
aacctcggcc ttctgtgtcc aagcgagtct ccggcttcag tctcctgagc agctgaatta  15660
cagggatgtg ccaccacgcc cagctaattt ttgtattttt agtatatatg ggattttgcc  15720
atgttggcca ggctggtctc gaactcctag cctcaaatga tccaccagcc tcgggctctc  15780
aaagtggtgg gattacaggt ataaaccagt gcactcggcc agatacagtc ttttttttt   15840
tttttttt tgcaacaggg tcttgctctg ttgcccaggc tagagtacag tgacatattc    15900
atggctcatt gcagcctctg gttcctggcc ttaagcgatc cttcaccttg gcctcccaag  15960
gatctggaac tgcaggcatg tgccactgcc cctagctaag gatacagtct ttttttttg   16020
agatgaagtc ttgctcttgt tgcccaggct ggagtgcaat ggggcgatct cggctcattg  16080
caacctccgc ctcttgggtt caagcgattc tcctgcctca gcctcctgag tagctggggt  16140
tacaggtgcc tgccaccatg cccagttaat ttttgtattt ttagtaggga cagggaggat  16200
acagtcttat gtagaaaaat tataaagaca tgtatgggaa tagcagacgc tgttcaaaat  16260
gatactgact tctagagaaa gagggaggag ggggacttcg gggtacgcca gcatcttgaa  16320
ttgtattttt ttaaatttct ttagctggtt agaaggtatg taagtgttct ttagcatatc  16380
ttttttgtt tgactgaaat agtttatagt caaagatcaa aaaaggaact ccacctagta   16440
ggtgaggttc tgtaatagcc gtgaaagacc aaattgaaat aagacttaag ggacatcttg  16500
acatgttagc ttctgtgtta gtattgaagc tgtatctcat ttttgctaaa gaagcattgg  16560
aatcagtatt tcagcttcta ctctatctgt tttattatta tttttactct gtaggtttta  16620
cgcacttata attgatgata gtttcacacc tagatgtctc ttcttactgt ttgtgacttt  16680
tggttttggg ggttttctc ttctgcagca acatttaaaa atattttatt cgaggctggg   16740
cgcagttgct catgctgtaa ttccagcatt ttgggaggct gaggtgggtg gatcacttga  16800
```

2899

```
ggtcaggagt tcgagaccaa cctggccaac atggtgaaac cgcatctcta ctaaaaatag 16860
aaaaaaatta gccaggaatg gtggcataca cctgtaatcc cagctactcg ggaggctgag 16920
gcaggagaat cgcttgaacc tgggaggtgg aggtagcagt gagccaagat tgcaccactg 16980
cacttcagct tgggtgacag agtgagactc catctcaaaa aaaaaaaaaa aaaaatttat 17040
tcgaaatgaa agagcttaca catttataaa tagaagagat tttaaggttt acattgtatg 17100
ttaattgtct gcatagaaga atctgagttt attaatatga gattgggatt ttcaagtaaa 17160
gcatgttgtt agaagtcagg ataatgttta tcttcctggg gtgttagtga ccggaagcaa 17220
gtgtgagggc acttctggct tgctggtgct attctgttgg gtaaccagtg cccaatttgt 17280
dacaagccct gtgctgcgtg cttagaatct gtacactttt ctctgtgttt attgtacctt 17340
aacaaaaatg tttaaaaata tacacatatt gtgaaagaa caacttaagg caaattaaac 17400
agagtttaat tgagcataga acaatttgtc aattgggcag ctccctgagc cagaataggt 17460
ttacagcgac tgtggcactg ttgcgtgatt ggaaagggtt tatggacaga aaaagaaagt 17520
dacggacaga aagtggaagt gaggtacaga aacagttgga ttggttacag ctggacgttt 17580
gtcttatttg cacatggttt gaacagttgg ctgcctgtga gtagttgaag ggtggctgct 17640
tgaattgggt gagacttggc aacacgtaag agaaaccttt aggccaaact taaaatatgt 17700
aaggaggcag ctttaggcta atcttcagtt aacactatat atcattaaaa atagaaaaaa 17760
aggcaaaata tgctcattaa aaaaattgga acatatagag gaatataaag cagtggaaac 17820
aaattttgga agctggaaaa gtatacaagt aaaatagcac catatagaca aaatcattat 17880
tgtttacatt ttgccacatt tcctttcact tcattttggg cattaaaaaa taatgataag 17940
ccaggcacgg tggctcacac ctgtaatccc agcacttgg gaggctgagg cgggcggatc 18000
acctgaggtc aggagttcga gaccagcctg gccaacacgg tgaaaccctg tctctactaa 18060
aaatacaaaa attagccggg cgtggtggcg agcgcttgta atccccgcta cttgggaggc 18120
tgaggcagga gaatctcttg aacccaggag gcagaggttg cagtgagccg aggttgcacc 18180
attgcactca agcctgtgtg acatactgag actccgtctc aagaaaagaa gtgatcatac 18240
tgaataagca attttataga ttacgtttcc cagttaatat tttagcttca gcgtgtcctc 18300
atgttgttag gcactttgca agtgtttatt tttttacagg ttaaaatctt tttctgttac 18360
aggcaagcac cacagtgcgt gtaaccaact ccaatgccaa tgcggccagt cccctcatag 18420
ttgctggcta caatgtgtct ggctctgtcc gaagtgatgg ggagcccatg aaaggcgtga 18480
agtttcttct ctttttcttct ttagtaacta aagaggtaag caaagaaaag aacaaaagag 18540
atggtgtgaa gggtaggagg gtgggggatt atagaccaga acgtactgtt ttaaaaaatg 18600
caggtctgag ttgatttatc attttaacac ttaagaatat cgtctgtctc aggccgggtg 18660
tggtagctca tgcctgtaat cccagcactt tgggaggcca aggtgggtgg atcacttgag 18720
gtcaggagtt ttagaccagc ctggccaaca ttatgaaacc ccatctctac taaaaataca 18780
aaaacattag ccgggcatgt tggcacgtgc ctgtagtccc agctgcgtgg gaggctgagg 18840
cagtagaatc gcttgaaccc aggaggtgga ggttgcagtg agccaagatc acgccactgc 18900
actccagcct gggtgacaga gtgagactct caaaaaaaaa aaaaaaattc aagaatatca 18960
tgtgtctctg ttgactcaca agacattgca catctacact gggaggcagt ggtatgtgat 19020
ggaaagtaca caggctttga aatcagacct gggtttaaac aaatctcaga tttaaacaaa 19080
ttcctcttcc tagctatgcg accctgggcc ggtcacatta ccttcctgag cttccgtttc 19140
cttatttgga gaatggtgac ccatgataag gaaggacagt catgtcatct ttcccgggaa 19200
gactgtgcca gttttttaact ttgcaacttg aatgtcaaga tttttgttcc ttttatctgt 19260
attaatgtgt cttagatttc agaaatacat atattgacat gaaacttaaa aaaattttcc 19320
tataatgtgg ctaattgatg gtattcagaa catgtaaatg gaaaggaag tcttgtcttt 19380
tttacccct ggcataggat gtcctgggct gcaatgtctc accagtgcct gggttccagc 19440
cccaagacga gagtctggtg tatttgtgct acacggtctc cagagaagat ggctcgttct 19500
ctttctattc cttgccaagt gggggctaca ctgtggtgag tgaagcagat ttccgttctg 19560
tttatgtctg ggactctcat gacacagtaa aagccaatgc tgtttgggtg ttaaaggaaa 19620
agatggttgg cctgcagttc tctgaacatg ctgttaagca gtaacttact taagatgaga 19680
cactcacccc ttcgtaatag ctacaaaaag ggcaaggctt cctcttttca aatctgcaac 19740
agttatgatg aatgtttctc ttggtctgtc tgaacccctt gtcatttgtg ggctgctaga 19800
tcgattatta atattgctga ttgatcatgt tagtggttct tagtgattaa gagactcttc 19860
cttccagatt ccgttctatc gagggggagag gattacctttt gatgtggcgc cttccagact 19920
tgacttcaca gtggagcatg acagcttgaa aatcgaggta aggctttttct gtcttctgga 19980
gggacaggtg tttgagttcc catccctagg cacaggtatt gcaaacatgt tttaaaaaaa 20040
aatcaattat tttatctgga agggctgttg gaaaaaatgc catctggtat tatattctta 20100
cccatgatgt ccttatcgta gagagctgga ttcctagtta aatctactca ttcaatgaaa 20160
tatatttatt gattgccagt gacatgcatt tcaggcacca ttccaggact ggggatatag 20220
cagtgaccaa aagaggcaaa aattcttgtc cctgtggacc tcatttttttt tttttttttt 20280
tttttttaag acagggtctc actgtgtggc tcaagctgga gtgcagtggt acgatctcat 20340
ctcactgcag ccattgcctc cagggttcaa gtgatcctcc cacctcagcc tgttgagtag 20400
ctgggaccac aggcacgtgc caccatgccc agctaatttt tgtatttttg ttagagatgg 20460
```

2900

```
ggtttcacca tgttgcccag gctgttctct aactcctggg ttcaagtgat ctgcctgcct 20520
cggcttccca aagtgttggg attacaggtg tgagccatcg cacctggcta gacctcatgt 20580
tctaatgaca ggaagggtca atacatgtat agatgtataa gttagaaagt acagtagaag 20640
gtgataagtg ttctctagaa aaataaagga agaaaggagg tagtacagta tcagggtgga 20700
gacaggggtt gcagttgtac atagggtgtt tttgggaagt cctccctgtg aaggtgacat 20760
ttgagcaaca acctgaaggg aaagaacaag agaaccatac ttcactcctg caggaagagt 20820
gtgtaagact gagggaacgg cacgtgcaaa ggtcctgagg caggagtgtg ctgaagagtt 20880
tggggcatcc caaggaggcc agggtggctg gagtggaggg aatgagcaag gaaggaggag 20940
gcggaaagag ggtcagggag gtgacagggc agattgtgca gggcttggtg ggccactttg 21000
cctataactc tgggtgagaa ttggtgccac tggaaggttc ctagcagagg agtggcgtga 21060
tccttctggc agctgcattg aggagagttt gcagggtgtc agggtggaag tgggagacca 21120
gttgggatgc catggccgta aaccaggtga gaactggcag agcttggacc gtgatggtag 21180
gaatgggcag tgtgatacat ggcttgataa actgcctaga ccctcacata aatggtaaat 21240
gtatttttca tctcacttac gtctccttta attacagaag tagaaaatgg ttactgtaga 21300
aaattggcta gctagaacaa atcccaaaag aaaataacag cctctcctaa gtggaccacc 21360
caatgttaga gttatcgaag caattatatt ttaatcattt tcttttaata attacatttg 21420
aaagtactgt gttaaaatcg cttaaactgg cagaagcgga cttttaggtc atatgcacag 21480
tggggtgcag actctgcatt ttaagattca gtggagtgtt tgaccgttct gctgtacact 21540
ggaggggaaa gagaagggta agaagatgaa gcctttactt tgcttctcgt agcttgcaga 21600
gaaggatggg ggcaggtgag cagagacagc tattcccaga ttacagccaa atacatattt 21660
tgaaaatgat gaatggaatt tcagggaatg gggccctgta agttccctga ggtcaggtac 21720
tgtgtcttat tctttactgt tttcctaaca tgtgatttag tgcctggcac atagtaggtg 21780
cccagcaaaa atatttgttg cgtacatatg tgaattaata agtaggtaat gcatggaatg 21840
aaacatgtct ttttggaaag atcaagaagg actacctgtc atgtgagacc atcactaaga 21900
aaccatttgc tgaaaaaaaa aataaaaaaa taaaaagaa gggctccctg cataaaaagg 21960
aagtcattta attatttaaa gcttcatctc aaatgctgtt gcacacgtgc gtgcacacat 22020
tcattcattc aggagtcagt tattgagtgc ctgctgtgta ccaggtgact aagacagaaa 22080
aagtccctgt ctccatgagg taacatgcta gtgggaggga gacaactaag aaatcgaacg 22140
aggacatttc agatactggt aagtttgatg aagatattaa aataggttag cagtggtgac 22200
cttggggata cacagatcag ggctggaact cagtaactgc agagaaagca cagctgtgct 22260
gctcacaggc gagtggggca cagacacaga cacagacaca tggagcacgg gaccacgtgt 22320
gagccagtga tggtggtgga ggagggtggt ctaggtggat ttcttttttt ttctttgaga 22380
cagagtcttg ctgcttcaca caggctggca ctatcttggc tcactgcaac ctctgcatcc 22440
cgagttgaag tgattctcct gcctcagcct cccgagtagc tgggattaca ggcgcccgcc 22500
accacacctg gctaattttt gtatttttag tggagacagg gcttcaccat gttggccagg 22560
ctggtcttgg actgctgacc tcaagtgatc tgcctgcctc ggcctcccaa agtgctggga 22620
ttacaggcgt gaàccactgc gcctggccta ggtggatttc ataaggacct gtgttcaggt 22680
cgtggtggaa agacaggagg ggacacgtga gaccttgcag aggtggaatc cacaggactg 22740
atcgatgctg gaggagcggg gcgggtcatc caaagtgatg ccggggtgtg catgggagac 22800
tggaggaaga cgtggttcac caaaatgggg gcatctggag gggaggagat ggcacagggg 22860
taagggtggg gggcttctag aagcttgagt cagtgacctt ttaacgaggg aagtaagtct 22920
ctagactttt cttttctgtt gtttgacact cagcagtgtg ttgggaacac aacagagaag 22980
acagatgtgg gtaaagtgag agggagcccg gctggcacac aggaccgggg cactgagtgt 23040
tgggaggtgg gcggcaggag cagacatggt aggtggtggc cggcgcagca gaaggaggct 23100
ttgtggctct ggcacaggag caccttcgag caccttcttg ttctttgttt tctagcccgt 23160
gttccacgtc atgggattct ccgtcaccgg gagggtcttg aacggacccg aaggagatgg 23220
tgttccagaa gcagtagtca ccctgaataa ccaaatcaaa ggtgggctga cacagcagcc 23280
ccaggctgat ggccagcgct cttttttggat cacagagaga aatggagagg aactgatgac 23340
tatatgagaa catggcagct tttggtccaa gtattctggt gtacatgtaa ggatacactg 23400
ttgttttttgg cttatcttct gtttgtgtgt ttttgtttta cagttaaaac aaaagctgat 23460
ggctcattcc gccttgagaa cataaccaca gggacataca ccatccatgc tcagaaagag 23520
cacctctact ttgaaacggt caccatcaaa attgcaccaa acacacctca gctggctgac 23580
attgttgcaa cagggtaagc ttatcgtgtg gatttggaag caccagtaaa tatgctggca 23640
gccagtgtag aaccaaatga cctgtgatct gtgtgtcttt gccgagctta agaacttaag 23700
aaagattagt actttttttt tttttttgag agacagagtc ttgccctgtt gcccaggctg 23760
tagtgcagtg gtgccatctc gactcactgc aacctctgcc tcccaggttc aagtgattct 23820
cctgcctcag cttcccaagt agctgggact acaggcgtgc cccaccacac ccagctaatt 23880
tttgtatttt ttagtagaga cagggtttca ctatatgttg tccaggctag tctcaaaact 23940
cctaacctca ggctgtctgc ctgctttggc ctcccaaagt gctgggatta taggtgtgag 24000
acactgcacc cggccaagaa agattagttc taaatcttac aaactgaagg tactgacatg 24060
tcggatgctt aatgaaaagt cccttgcttc aaattaaaat gggcttgtga aattaaaaaa 24120
```

2901

```
tctttcatgt ctgactttca cgatctttca caggacccct ctttgcttaa tctttgagga 24180
ttttttggaag atggtattgt tggttgagaa agcttattgg aagatgcttc aggtcattgg 24240
tgtagttctt cctgcttgta gttactcatt atactataag tacaggcagg gacatcttgt 24300
ggttgaattc atgtggtttt accatcatct gaagcaagat tgtgtagtgc caagaacttg 24360
ggctttggag tcagatccca gatccacctg tatgtaacct gcagaacagc tttagacata 24420
acaggtgctc acaaaacagt agcttagaag gagactgcag ggtctgcttg ggagaagcgc 24480
ggcatgagca aagtcaggca gtctcacagc agcatgaggt ggctgcgggt gtaaagctgg 24540
gtgctactgg agcagaatat actggcaggt gaaggtgatg atgaggccaa ccccatagca 24600
cctcctcaca ccccaccagg gcgtaggggc tttctcccac tggggccaac gggccatgag 24660
tggttttgag cattaatata acaagctttg atcattgttt tcaataggGc attctgaaaa 24720
caatggcatg gagtagagtg gctttgaagg ggacaggact tgggcacagg aggtctgaaa 24780
gcagagacga caagggcttg ccttgtaggg aagtcaggga cagactggtg agatatttag 24840
ggtgcccagc ttgagaggtg tgatggctgg ggacagaaag agaagccagt taggtgatga 24900
ggtttcagat ttggccacat tggtctgtag gaccactagg tggagctctt caataggtac 24960
ttggatggat ggtaaatcct gaagatttgg ccgcaggtgg cagccaggac ctcaaatatg 25020
tatgtgcaag tagaattaga agaacagtag gccaaaaaca gagtgccagg tggcccaggg 25080
ggggacctag ggagcctgag gtcataggag ctaagaaagt aagtttgggg taggaggtag 25140
ggcccaacag gtaggtgcag ggagctgggc cctggtgaac acagtcccct ggcttgatca 25200
ctgaggaggc cacagtgact cttttctgta dacagatgga ggtcaaggtc aaggagtcca 25260
gtggtgaatg gaagacaggg aagcaaatta ccctcagaaa gtaattcttg gatttaagtc 25320
tttcccacct tccataaaca ctttgtgcaa ttactctaga tgaggcactg aaaaatgctt 25380
cgtacctaat aattaatcaa actagtgttc cagagatggg gctttcaccc taccagggag 25440
acagactgaa gacaaataca tctgtggcca ggcttaatgc ctcacacctg taatccatcc 25500
cagcactttg ggaggcagag gtgggcggat cgcttgagcc caggagtttg agaccagcct 25560
gggcaacttg gcaaaacacc atctctacca aaaatgcaaa aattagctag tttcataacc 25620
tggtctaaaa ataaataaag agataaaaat taaaaaataa caagatttt aaaaaagaca 25680
aaaaagacaa atacatttat gctgctaaat tatggcaagt gttgtgcagg gaagagatca 25740
gggtgctgca agaagagcta atttagagtg ggagctctgc aaggctctct gggttgcaga 25800
gaccttagta aagactaaaa gttagctaaa gaaagatctt ccctagtaga gaagcagcat 25860
gctcagaggc ctgcatagga taggaaggac ctgaaaggca gtctgcgcag ctggaggagg 25920
tgggtgaggt cagggagctc tggggccttg tagccttgct ttgggattgg gctttgctcc 25980
ctaatgcagt ggaaacccgt taggagttgt ctgttggttg gccgggcacg gtggctcacg 26040
cctatgatct cagcactttg ggaggctgag gtgggcggat catgaggtca ggagttcaag 26100
cgcagcctgg ccagcatggt gaaacccggt ctgtactaaa gatacaaaag gttggcgggg 26160
catggtgatg cgcgcctata atcccagcaa ctcaggaggc tgaggcagga gaatcgcttg 26220
aacccgagag gcaggggttg cagtgagctg agattgtacc attgcactcc agcctgggcg 26280
acagggtgag attccgtctc aaaaaaaaaa aaaagagtta tcagttggca agggagtgat 26340
agggatcatg gtactttaaa aagtttgttt ttcttcctgg ctgctgtgtg gagaatggat 26400
tggaggaaag ccatggtgtg aatggagggg ccagatatga ggcagtcgtg gttgtctgga 26460
ggagatatgg tagtggctgg gcccaggcgg ctggcaggcg agggagcgag gagtagatgg 26520
atttggtagg tcacatggag aacacaccca caggcctgtg ctgttgaggt tacaggtttc 26580
ttatttgagc cactgggtag atggaggcgg tgctgttcac ggagatggag gaaatatatt 26640
tattttctcc tttaaagtag agtatttggg tcaaagaaag aaaaatagca tttgttgaac 26700
attttttggaa aaatctcttt tttttaattg gccgatgtag tacacttgcc tttttagcac 26760
actgatactt cttactattt cttttccttt ttattttttg ttgagccagg gtcttactcc 26820
gttgcccagg ctggagtacg gtggcgccat ctcggctcac tgcagcctcc gcctctcggg 26880
ttcaagtgat tctcctgccc cagcctcctg agtagctggg attacaggct aatttttata 26940
tttttttagta gagatgtggt tttgccgtgt tggctaggct ggtctcgaac tcctgacctc 27000
aagtgaccca cccgcctcgg cttcccaaag tgctgggatt acaggctgag ccatggtgcc 27060
tagtcttcct ttaaagtaaa ataaaaaaat tactcaattt attgtaaaaa caaactcttt 27120
ggcttctgtc caaatgactg tgaaaataga tttctctcaa tatccaccaa tattacctgt 27180
ttctgtccat atatgtattt aaaccctgtt gaaagaattt attgatacaa atcaattttt 27240
aagggcttca gtataacgga acctttttct accacccttt tggtttattt ttccaaacta 27300
agccagtata gatttgaggt ttagggaaaa taggcacttc tttttaataa gaatgtgggc 27360
taaaacagat cttatggttc aaatatttac aacttaagga ggcaaagaga tttgatagga 27420
aatagacaag gtgatgtgtc ctctgacagg tacacaaatc aagagaatat gacaggtcct 27480
tgggaatgat tgtgtcagtg ttcgcttccc atccttttat tctgaaagtt cacagtaggg 27540
gaatgtgaga accaaaatgc atatgctagg tcagggactg ggacactttc tctgtggaga 27600
gccagagaat aactatttta ggctgcgtga gccatacggt ctctaggaca acagctgaga 27660
tagacatttg taaatgaatg ggcagagcgc aacacaacta cattttggga caccacagtt 27720
tgcatttcat gtaattttta catgtgaaat attatctttc ttttgatttt ttttttaac 27780
```

2902

```
tttaaccact taagagtgta aaattctttt tctcggcttg cagttcatac acaaacggga 27840
ggggggtcct tgggtggtag tttgctgacc catgctggag atagtgagct catatggctg 27900
ggcagtccct tcactctgaa gaaatggctg tgttttcat aattcctaga tttcacatac 27960
acaatcttcc accatttcct tgtgttttcc actgtttttt tatttgaggc ggagtggtgg 28020
ttccaacatt taatgtaccc ctaattgtca gaatccaaca ttcttgatta tctttatgtc 28080
agaagtaact aatttttatc taaaatgatt cttgaagatt cttttaaaatg aacagttgaa 28140
aagacaactg tgaccccccag ctaggatgta ctattacact ttaatacacc agctgcttca 28200
gaaatgaaga ccagcactcc aaggatgatg gtcgttgtag ggggggcctct cgtgtgttat 28260
tcgagggatg ccttgcaaca ccttactcct tatttagaat ctcaaatctg aatcattacc 28320
ttaatagggc ttttcagtta taagttacat tgtggctcct acctcccaag gagttcaatt 28380
ttagctttgc atttttaac ttaattacct tttctgttcc aatctcccag tttgctttca 28440
tccatgtatt atatataatc acaagcaagg aagacgtctt tgataatcct gacttatttg 28500
atggcctggt aatgccacag tttcttaggc agcttagagc tcttgctttt aagggctagc 28560
ccacattctc agtccaaggc cgctctgctg tcaacgatcc aattacctga aacgtttta 28620
ttatctgcag attttcttaa aattgcctct gcagtggggg attgccagat gtcacccgga 28680
acacacaaac agccccacta cgggcccctg ttctgtagaa agatgcccag tcttgcttct 28740
gaaggttgct ttttaaaacc agaatgaagg ttgctttta aaaccagaat catctggatt 28800
gcattctgtc tcttcattaa gattagacta ttctcaggaa caagggctgg gagagggctg 28860
catctttttt ggtcgataag agcctttcct gttataattg agtcctcgtg ctggaatgaa 28920
tggtcttctc tttgcaggtt cagtgtctgt ggtcagatat caatcattcg cttccccgac 28980
accgtcaagc agatgaataa atacaaagtt gtcctgtcat ctcaagacaa ggacaagtct 29040
ttggtcaccg tggagacaga tgctcatgga tcattttgtt ttaaagcaaa cccagggact 29100
tacaaagtgc aggtgcgatg cattgttta aatttaaaat gttttgagaa aaagcagtga 29160
tttttagaag ggttattagg tcgaatgggg ttagagaagg agcattccag tttccaactt 29220
cttgttttta agtctttaca atcctgcacc agtagaggag agtcagatag gcatccagct 29280
aaaaaataat gccatctgcc tctctttttt ccagtcttga tggttattag tatcaggctg 29340
ccagtcactc ctctaccttc aggcttctgg ctgctgtaga atgtcgatga gtccaagagg 29400
acaccaaaaa tgaactctac taatggccgc tcaaaaatgg ccatagtgcg tggcttctgg 29460
gaccccaggc caaaatggag cttcccattt cctgctttgc cttgacttca agatggctag 29520
gcagggacca cgcgacttat ccattcaagc aggccgagaa cggggagacg gtctggcctg 29580
tggtctcatc accatggtga aggcccaagc cacagctggc ccaagcaagc aagagacagg 29640
acagagcaga ggtcagccca ccatgccttt cagtgcagtg gccctgccct tggggagaga 29700
ctgtttccgt gggctgtcac ccatcaaatc agcagctgcc cttcctccct gtggaagagc 29760
aaataacaca aagggagagg gccgagaagg ttccctgtta gactctgctg tcctctaggg 29820
caaagtgggg tccctccctc tgtgggaaac agggtaggag attgcgttct ccctgcttcc 29880
acagaacagc gtggtgtgtg ggttgacagc tgactttatt agatggtagc tggcttcttg 29940
cgaagatgtc cacattgaca agtctttgga agcccttttcg gaagcatgat ggacttctcc 30000
aaggaagggc agtgtcgtct ttactaggga tgaaagagtt gaccgctgct accttcacct 30060
gttcctcttc ttagcccatg aaaggcacgc agaacaatag gaggaagaaa atgacttaat 30120
tccaccaaag tgtcatccac atagtgttga caggttcaga gcttatgcta caagtgatcc 30180
gaagccggga aaagtgactg ggatgtagta tggtttctag tatgtaagtg aggcgtgtcc 30240
gcgtcgcggg cctgtgggga attaggccag atagactttt gttcatacac atcggtctgt 30300
tgaggctaat ttttcatctg ggtagaaccg tgcttacttc acacaagtta ttcgtggatt 30360
tgttgtgatt gtaaaatcag cctggaaacg aacctttggc cttcaaaatc tctttagcct 30420
tggtcccaga tgaatgttct agcgccctgt aggtcagggg gaagatctcc ccgaatgcag 30480
cctctaacgt tccatccacg tttccgcagg tgatggttcc tgaggcagaa accagagcag 30540
ggctgacgtt gaaacccag acatttcctc ttactgtgac cgacaggcct gtgatggatg 30600
tggcctttgt acagttcttg gcatcagttt ctgggaaagt ctcttgtttg ggtaagatat 30660
cactggaaag taagaacaca tagtttcaaa gaagtcagcc ggtaggagtg ggatttggga 30720
aactttttgt tttgcctttg ttgtttgcta ctgatcacct gcgtgcgagg gaggcttctt 30780
ggagtcaggt gggtacatct taacttgaaa gaagcgctcc gtctgcctcc ggccactgcc 30840
tcttaggagc tcagcagtag caagaagcta ttacataggg ttaggattcg aacctgtgct 30900
gaagccttat aaggggtcac atggagccct cccttctttt ccctgcagac acctgtggtg 30960
acttgctggt gactctacag tccctgagcc gccagggtga gaagcggagc ctccagctct 31020
ccggcaaggt caacgccatg actttcacct ttgacaacgt gctccctgga aaatacaaaa 31080
gtaagaattg gaatgcaaca tcctgtggcc ctcacacact tcttgtcttt gtaaactttc 31140
taaaactcag gtctcaaatt gtatcacgac catgtacctt tccttgtttt aagtcgtctt 31200
tgcctcgtga ccttgactgc attatttagc gttggacaag catggaggag tccaggccct 31260
gagctgacca ccaccttgtc tgcacagccc actggcggct tctgttaagg gagggtgccc 31320
cgacgtatgg cattttattt ctaaagccca gagaaaggag tgtgaaatag ttccactgat 31380
gtgttctact aacttagcag tactggtgct gagtactggc catggcaagg tacttgacct 31440
```

2903

```
ccctgaaact cagttttccc atctgtaaaa tagacataat agaacctttc tgcagaatat  31500
aagactaaaa gaagtaaagt ttataaagcc cgttgtgcag agagccagct aagtagctgg  31560
tgcccacaaa tgttacttcc cttttccttg cccttcttaa gaagccactt cttgcctgta  31620
tttctgcttt ttcagaaatc agcttggggc tgctggcagt ggatagctca taaaacagac  31680
tgctttttct ggaattatat taatattttc tgttatggca gggcttggca gactacaaaa  31740
actgcctttt ataagcgtag tttccttaga atacagcctt gcccatttgt ttatggattc  31800
tctatggctg ctcgtgtgta acagtggcca agtcgagtgg ttgaggctga caaagcatgt  31860
ggcctgcaaa actgaaaaga gttacagaaa aagtttgtgg atccctgaat accttacttg  31920
cagcctgatc ttacaggccc cattagattt ctttcttgat gtaatggaaa ttggttccag  31980
ttttctttc tttttttttg aaatttagcc tcgctctgtc acccaggcca gagtgtggtg    32040
gcgcgacctt ggctcactgc aacctctccg ccttctgggt gcaggagatt ctcttgcctc  32100
agcttcccga gtagctggga ttacaggcat gcaccaccat gcctggataa cttttgtatt  32160
tttagtagag atggggtttt gctatgttgg tcagactggt cttgaactcc tggcttcaag  32220
ccatccaact gccgtcagcc tcccagagtg ctgggattat aggcatgagc caccacgctc  32280
gactccaggt tttctttagc agtaatttat tccaaatact gctagttata aatatatgta  32340
tgtgtatatt tctatcttta tgtctacata cacacctgct ttttaaaatt agttaattca  32400
tgatcattgt ttctggtggc gtgcagggag gtggtgtgct ccacgcccat gtatccgttt  32460
ttggtgtttg cttttgcagt aagcatcatg catgaggatt ggtgctggaa gaacaagagc  32520
ctggaggtgg aagtgctgga ggatgacgtg tctgcagttg agttcaggca gacgggctac  32580
atgctgagat gttccctgtc tcacgccatc actctggtat gtacggctta tggagtctct  32640
tatttggaaa agcgcttgcc ttgtggatgt caagaaagac taacatccca ggaatattgt  32700
aaacgtaggc aagtcagatt tccttttctg cctctgcact cacccacctg ttacgcaacg  32760
cataatcagg aagcatttat actctctcag tggaaggacc cctgtattta ggaggtttcc  32820
ttgtcctggc cctacactaa atctgactgg tgattcgggg tgacctttgg tacagtgtag  32880
agcacactgg ctttatatta ttagtaataa tagctttggg taaattcatt tactgcttct  32940
cagcctcagt tttcaccgaa aattgagatc ttaataccta cttctcaggg ttatggcagg  33000
gcttaagtga accctcttag gtatcaaagt gtccttggtg tacaccgctc tgtactgcca  33060
agtgagtttc tctgatatat atatatatat atatatatat atatatatat atatatatat  33120
ttttttttttt tttttttttt tttttttttt gagatggagt cttgctctgt tgcccaggct  33180
ggagtgcagt ggtgcaatct cggctcactg aaacctccgc ctcccgagtt caagcgattc  33240
tcctgcttca gcccccccgag tagctgggac tagaggtgcg tgccgccatg cccagctaat  33300
ttttttcttt ttttttttgta tttttgttag agacagagtt ccaccatgtt ggccagactg  33360
gtcttaaaac tcctgacctc aggggatcca cccgcgttgg cctcgcagag tgctaggatt  33420
acaggcgtga gccattgtgc cccaccttct ctggtgtatt tgttccagtg caggggaaga  33480
agctgtaaac aggatcttag cttcttgttg actgtggtct ctgtggcctg aaaggcagtg  33540
tgaaatgggt ttcaggagca cctctgtaga tcccttcgtg aattttctat aatgttttga  33600
tgtcgagcgg cggcagatgt catcgtcagg tcttagtttc tctgtagaga aactagaaga  33660
attggaactg gtgtttcatg tgccaactta ctcccctaac tgcttaatta caaaaactcg  33720
acaggtcgat ttgttatagg agatcgatta atatccggtt cataataagt gatagatatt  33780
taggaaacct ttcccttcca gcagtggagt ggatttccag ctctcttgta ataagatcct  33840
ttttttttttt ttttttgac acttccttaa cccccttcttt atctcctccc actgtccct    33900
cactcgccgg gccccagcca cagtggtcct ctgcagtccc acaccaagct cactccctcc  33960
tcggggcctt tgcacatact ctcccctctg cctggagtgc tgtgacttct ccagaaacac  34020
gtgttgttgg ttttttcctcc tcattcaggt gcagccctat tgttcaggag agatgtgccc  34080
tgggaccagc gagctaaaga cccctcggtg gggattgttc ttctcttgct ttcctgtttta  34140
ttttcacagc ttcgttactg accagttgag atcactaatt tatttgttgt tgcgttgatt  34200
ttgtcttcct gtattagaac ataagccctg tgagagcagg agccatggtc atgactccca  34260
aggcccagcc ttgtgtctgt cacatagcag gtgctcaata aatattagtt gattgaatga  34320
aaaatagcac acttttgttg gaagtttttgg gaggtttta attttactgt ggcacccaac  34380
tgctccaatg attaatgggc aaaacagatg actggtttgg aaagagaaat attattaatc  34440
atcttggtgt ctccatctct cttagtaagt cattgtattg gctttgctcc cttaggaatt  34500
ttatcaggat ggaaatgggc gtgagaatgt ggggatttat aacctctcca aaggagtcaa  34560
ccgattctgc ctgtccaagc ctggtaagtt tggaaggatt gatgtgccat gaattagaaa  34620
aatggaaagg caccagagga tggttttgaa ggcattttt tctaccttgg ttctgtttgc    34680
atcaagcttt caatttctgt gtgttcaacc tgctcttgtt tttctgtctg tcttgggttt  34740
gagttgggta gacaccactg ggcccttca cctccaaaaa tataccattg gccaatggcc    34800
tctctttata gtgctgtttt aaaatttgaa tcatttccca ctttgcttaa aatctttcag  34860
tggcttctca ctctttctca ttttttttt ctctttcttt ttttgagatg gagtcttgct    34920
ctgtcaccca ggctggagtg tagtggctcg atcttggctc actgcagcct ccgcctcctg  34980
ggttcaggcg attcccctgc ctcagcctct cgagtagctg ggattacagg tgcccaccac  35040
cacatccggc taatttttgt attttagta gggatggggtt tcaccacatt gtccaggctg  35100
```

2904

```
gtctcaaact cctgacctaa agtgatccgc ccgcctcagc ctcccaaagt gctgggatta 35160
caggtgtgag ctgctgcacc caaccctctc tctcttttat aatggctttt tttggaggca 35220
gaatttgcat atcataaaac tcacctattt aagatgtaca ataaaatgat ttgtagtaaa 35280
tttatcaagt tgcacaacca tggccagaat ccagttttag atttgttcat cacccacaat 35340
gtaagatcct ctgtgcccgt tgacagttaa tccctgtttc tagccatggc cagccactga 35400
tctattttct gtccccatgg attggctttt tttggacgtt tatcatacga tgctggtatt 35460
ttgtttggct tctttttattt aacatgtttt tgaagtttat ctgtgtcatg gcacatatca 35520
gtagtttgtt ctgttacatt gctgtgtagt attctggtgt gtggttatat catattttgt 35580
gtatccattt atcagttggt ggatatttga gtggtttcca gtttgacgct gttatgacta 35640
atgttacgga cattcttata caagtctttg tgtccgtatg ttttcgtttt tcttgtttcg 35700
atacctagga atggaattgc tgcattgtgt gataagttta tgtttaacct tttaagaaac 35760
tgtcaaattg tttttccacag aggctgtgtc atttgatatt cccaccagca atgcacgagg 35820
gttccggttt cttcacctcc ttcgccaaca tttgttattg tctgttttat tatagtcatc 35880
ttggtagatg tgaagtcgtg tctcattgtg gttttgtttt gcatttttcct aatgaataat 35940
tcagtggctc ctccgtttgg ttcccaagat aaaatacaaa ctccttaacc tgatcttagc 36000
tcctgtgtaa cccagccctg tctgccactg tctctactcc agccactctg tccttctggg 36060
tgtcagttca gctgcctttg gctacatgta acaaaatcca tacagcagtg ccattggcaa 36120
gtggtagttt atttggctca ataaagaagt gtggcagtgc gtggctgcca gcatgggttc 36180
agcagctggt agatgttagg ggtggtgtct ttgtgattct ttaggccttt cccttctatt 36240
ttttgccttg tattttcaag atggctgtgg ttagaaaact tatgtttaaa ggaggaagtc 36300
aaggagaggg caggcaaaca tttccttgcg ccccctcctc cagtaagcta cttgtctgta 36360
ttattggcca gaaccgtgcc acatggttac ttctagctgc aagggaggct gggacagttg 36420
gatgtgctac ccgaggctga gcacgttgcc accctcaaca taaccagggt ttgttctcaa 36480
ggcaggaagg atgcctgttg aggaaacaat gagccagcct gtgaggcaga tgctgttctc 36540
tgtggacatc tcctcctgcc cctcctagct ggggccttct tacccatcag ttcagtattg 36600
cttcctgggg aaggatggcc tccagggcca cttaggcctg cctcctacac tcttgctctc 36660
agcactcact tctatcccct tcttgcatgt gccacaattg atatgtttgt ggctgtcaaa 36720
tgctcccct ctctgtggat ggtaaactcc atgaagacag ggaccactgc tctgtcattc 36780
cccactgtgt accagtacct agcataatac ctggccagga agagatgctc tgtcgatatt 36840
tgttgaatga aagaccaaac aaaacaaaca gagaaacctg attttttttt tttttttttt 36900
ttgatggtaa ctactctggg gcttgttgag tgcaatgaaa acagcagggt ggttttagct 36960
aatttcaggt ttttgtagga agtgtggcca aaatactggt taatgatgat ttgggggaaa 37020
tacattgtta ttccttgtat cttcctgaaa ttgactgtgt tcctctggca agtgatgaaa 37080
tgtaccccta ctcggagtgt cctcccacac agactcacac ttttctgggg cttcccttac 37140
tccttacctc cttttttagga atatttatag gaagaaattg aggctgtggt tatctcttgg 37200
atccttaata gaatcttttta agtaggaaat tatcctcagt ccaatttgca gtagaaacgt 37260
actttctgtt ccttctcgtg catgggtccg ttcacctggt ctgtgcagat ttaactactg 37320
ggagttgtta ccttatggaa aatgaaaatc atgcgcctgt gatcgggcca ttgcatggat 37380
cgggtcattg gtaagacgcc ttcataggca gtgaaaacga tgcctgccca gtatttctga 37440
tcccattatt gcagatctgc gatacatttg agttttcaca tgcaaagagc tgccactcga 37500
tttcagatgt cggaattgct cagtgtaata gatgccattc tctgaaaatt acttttgatt 37560
tcctgtctgt aggtgtgtac aaagtgaccc ctcgctcctg ccaccggttt gagcaagcgt 37620
tctacaccta tgacacgtaa gcctgggaat tgaatgcttt gtggtgtttg tatacattcc 37680
gtggaggatt cttcatttac ttcagagaac aaaaggagtt tttctgtttt ttttctgaaa 37740
gaggcaaggt taggccttca acagcatttc tagataagga ttttaagaca cttggattag 37800
ttactgagga accggagaca ggatcccttt cccaagaatt ctgtaacccc aggatagagg 37860
gctgtgtttt tgaagtgcct taaatagaag ctttgtcaaa tctcccagcc ctcaccgatg 37920
ggcatctgtc aagttcaagt ctgccatttt tgtatttta cagatgtgtg tgggtttcac 37980
tgggaattgg aagcataaag ttgtggagtg gagaattagt ttactcttta aaatacttct 38040
ctggatctcc agagttattt taccccagac taaaagcaat tttctgtagt atatttaggg 38100
tgaagaagga tgcccaaaaa gggtattgct gatgatcttc tgagaatgag taggttctag 38160
cgtttcctct gctttgattt gtaggtcttc acctagtatc ttgacattga cagccattcg 38220
ccaccatgtc cttggaacta tcaccaccga caaaatgatg gatgtcactg tgactatcaa 38280
gtaagatgag cgttctgcag tgggccgaga gtggcgggag agggtgtgga tgaggcctgg 38340
ggagtctcta ataggctctc tggaaattag ttttgatttc ttatctctag atgtatatac 38400
aaatggcctt ccctctctta taggacattg ccgtcaattc ccagcagcct tgatcctttc 38460
cttttctgat tcagaaatta cctgtgggtg aggaagagcg ttgcgacagc ttgtttcagt 38520
gtcttcaatt tctgtttgaa ctctttgtac ttctcatctt tgctaaggaa aaaaaaaatc 38580
tctgggggttt gtgcattgta tttcaagtgt tttagcaaat tcaaattgcc tattttttctt 38640
tagacttttg cttgaaggct tgggaaatag agatggcacc tggtataaga gaagggtcgt 38700
gagagaggaa gtatttgaaa ggcaagtccc tcaccgaagg tcacgttcat gtgaatgtca 38760
```

2905

```
cctttcaggg aattttttgca gtgtggtgag gtacctgtga cgccccaatt ttcttgagaa 38820
atgaaagagt tttggcaaca tgaccgtctc tgtcaagtag aatgggcatc gcagtccctg 38880
tctccctcct gcccctggtt gaagtcacct ttccagctat gtttccatct ttctgtccac 38940
catctgttta tccatccgtc atccctgcag agtacatgat gactgaaaaa ctgagagtct 39000
tcagtgttta ggcactgggc ttatgaggcc acagcccta cacttatggg attgacagtc 39060
tcatgggggg aacagtggtc agatactcac atgcagaacc gtaaaatgac aactgttctg 39120
agtgctttga gcttgacctt gggggcatgc aggacaggta ggctgcgggg ggccaggcca 39180
tgttaaggtc catagtcttt gtcccatgat gcaattgaca tgttttacat agaggaatga 39240
cattttttctt cctgaaggtc cccctattgg ccgagtggag aacagacaga agaggcctga 39300
gagtgggagg tggtggaggc aggggaggc aatgggggcc ccagactagt ggctgcggag 39360
atggagagcg acggactggt cggagagtcg ttgagggact gagttgatga gacatggcac 39420
taaagtgacc actgggttag ggcgggagaa atgtcagggc tggccctggt ttctggtgat 39480
ggggagccag gtttttagct gggggtggat ttgccgaagg tctgttgctg tcttttacta 39540
tcatttactg tctccctgct tggaaagtat gaattactga taggactagc aatctacctt 39600
cttaccagta gtaactgcat attacctcct ttcagcttga ttacattcat ttttgtaact 39660
tcacaagggt gtttgtgttg cttgcttgtg ccggaggttg tatggaatgc atcttccagc 39720
tagacagagc cactcggatt ccccctggga atcgtgtact cagcagaccc aaaacccgac 39780
tgctgacagt tgccctccat gagcccctct gtggtctttt ctgattcaga tatggcagct 39840
cccgctttct ccttgtttct tgattcttat ttcccttgaa ccctaggccc agccaattcc 39900
ccaacaaagc cttggcttta caatcaaaat acacccgtca tctagtccct ttttaccact 39960
tggccctcag ccttggtctg accccctct ggggtcactg cagcagcttc ccagctggcc 40020
ttcccttctt accacgtggc cctcagccct ggtctgaccc cctccgggat cactgcagca 40080
gcttcccagc tgggctttgc ttcttaccac gtggccctca gccctagtct gacccctct 40140
gggatcattg cagcagcttc ccagctggcc ttcccttctc accacgtggc cctcagccct 40200
ggtctgaccc ccctctggga tcactgcagc agcttctcag ctggccttcc tgtttccgcc 40260
attgctttgt gtattttcca tgaaggagca aacgatttct tttatcatac cattcctcga 40320
ctgaaaactc cagtggctcc aggtcggcac caagcctgtg aagcctcagt ctgacatctg 40380
ctgccccttg gacctctctg ttggatatga ctcttccgtg ggccctgtg ccccaggctg 40440
gactggtgtt gccattgctt gaacatctga gtgagctttc tctccaagga ctttgcactt 40500
ggcatcgctt tgcccaagct actgtttacc cagagagctg cgtggcgcat tctctccctt 40560
ccttcagacc tttgctcaat gtcaccttat cagaaaggcc ttgactgtcc ctttaatgta 40620
aaacagtgct ccgggctctc cgtcttccca cactgcttta ttttctttta ttgcactttt 40680
cctctggtat tattttttctc tttatttttca gccccttccc actgaaacgt ggattccaca 40740
ggggtaggaa gtgtggtctg ttttgttgat gctgtatcct tggtgcctag ttctctatca 40800
gagcagttct cagcgaaggt agaatggaga acagaggatg gtggtgtgga gaaaactccg 40860
tgtcctacat ggaagctaca agcttatatc cagtcgccat aaaatcaacc gtatttcatt 40920
ccagcccaga tctaccagat actgccacca tcactgcgaa gctcagttgt tattttttgt 40980
gaaactacta gtttatttaa aacagaagac tccgccactg tggtgtcatg ataagatgtc 41040
cagtttgtaa ctcgcaagtc catactcgta gaaaggtcaa attcccactg accacaagga 41100
tacgcaacca cgtcctaggg gccgccattt cttcttcta ggtcttccat cgacagtgaa 41160
cccgccttgg tcttaggccc tctgaagtct gtgcaggagc tgcggaggga gcagcagctg 41220
gctgagatcg aggcccgcag gcaggagagg gagaaaaacg gcaaagagga aggcgaagaa 41280
agaatgacca agcctcccgt gcaggagatg gtagatgagt tacaaggccc cttctcgtat 41340
gatttctctt actgggcgcg gtaagctctc ttgtgcgttt ccctacagtg tcctctgttt 41400
tgtggggaca ggacccgcca aactgaagta tattaattat tttaggtctg gagagaaaat 41460
cactgttaca ccgtcatcta aagagctgct cttttatccc ccttcaatgg aagccgttgt 41520
cagtggaggt aaatgtcaac tcagcgagtg aatgtcacac acaccttttgc agttgttccc 41580
ttgcctgcat ttacaagtag atttgtgatg ttatagtgaa gccatctttg taagccacct 41640
tacatcctct ctggcacaca gatgttactg ttggttggat ggatggatgg atggatggat 41700
ggatggttgg gttgggtgga tggatggatg gatggatgga tggatggatg gatgaatgat 41760
ttagataaat aaaagtaact tttgctgtta gaattgagtt gatctttttg gaaaaggact 41820
tggttttctt tgacattatc aggtcgacac cagaaggtag atgaagcaca aagctgccag 41880
tgatgatctt taatgatctt tctgttgttt ggcagagcat gatgggaggg tctttttttg 41940
gggaatggat gactgaagtg atcacttgtg gagtatttgt cttttgccac ttattatttt 42000
tttcccagca ctctggcttc gttaagttgt gggtgttatg tggttcgtgt ttggaagcag 42060
agggtgttga agagcgtgac ttctagcagg caggctgttt ggggcagtct ttctcagtgg 42120
gtcctccaga ggctgagcag cacggcctcc tgtctgctgt aaagtgttcc ctcctgatct 42180
gtggcctcct gagaacctag gaagagtagt agtaaaaacc cagccttcag cgtttttga 42240
ttctcttgct aaagtccttc acactgagaa aggcctttca gggatggaaa gaggcttggg 42300
ctgtatccga ttattgagct ccccgggggtg ttaaataacc gcatttggaa ctagcttcta 42360
agatctgttt tagccacttt tgtcatggga aaccccccaac caagaagctc ctgtctctgc 42420
```

2906

```
taccaagccc catccttgtg tttatttctt ccctcttag aaagctgccc agggaagctg    42480
atcgagatcc acgggaaggc aggcctgttt ttagaaggcc agatccaccc cgagttggaa    42540
ggagtcgaga ttgtcatcag tgaaaagggg gcaagttcac cgctgatcac agtctttact    42600
gatgacaaag gtgcctacag gtgagcccgg gatagagaca catttgcctg ggatcagcgt    42660
gggagtcctc tgaagaaact ggggcccaca tttccttggg cttggtaagg cttcctgcag    42720
ggtgtgaaca aagccgttgc tagcattctg ctctctcctc ttcagtgttg gcccctgca    42780
cagtgacctg gagtacacgg tgacctcaca gaaggagggc tatgttctga ctgcggtgga    42840
aggaaccatc ggagacttca aggcctatgc cctggcaggc gtaagctttg aggtaactaa    42900
cactgtattt tcaaaaggca gttatactga ggtataatta acatataata aactgcacaa    42960
aaagggtaca gtgtggtagt cttgacctag gaatacaccc atgaaaacac ctccacaatt    43020
aaaatagcac atctgtggcc ctcaaggttt cctcctgccc cttggtaatc cctccctgcc    43080
acccttccgc tgagctgatg atctgctttt catcaccatt ggttagtttg cattttcgag    43140
ttttttatagg ttggtgcaaa agtgattgtg gtttttgcca ttgagaataa tggcagaaac    43200
cgcaatcact tttgcaccaa cctgtatata aatggaatca aacgggatat actgttgttt    43260
ttttttttttt tttggtctga cttctttcac gtagcataat ttggagagct gttgacttta    43320
gcatgtttgt gtaccttctg ggaagtagtt aaagctgtca tccataactg ttccattttg    43380
aaggacacag aatgttctta ctgaggcgtt tgctgcctag ctcccttcca ccggtccttt    43440
ctgggaagaa gcgtgctgcg attgtacaga gtgggtctgg agattgttga gaatgaatat    43500
ttataaacta taggccaaag gaaaagagtg acagattaca tcgcataaaa atttaaaatt    43560
ctatattgct gaatacattt ggaaccaaac tgaaagatat tcaaactcgg aagaaatgtt    43620
tgtatcataa ataatatccc cattttacaa ggagctccta aaattggtaa gaaaaagaca    43680
acccgctaga aaaaaaatga acaaagatta tgaaaaggaa attcatgcaa gtaacacagt    43740
gactaataaa cacagaaaca caaagcctct gtagttactg aggaaatgtg ctaaggaagt    43800
tacagtcgaa acactgtttt gcagggatta gatttgctgt aattaagaca atctttattt    43860
tttggtaagt gtgggttttc ccaagcataa ataatttatg ggactgtaag tggttacagc    43920
cactttggaa tgcaattaga tagtatcttt ctgaatttaa agtgcatgta tccaacaatt    43980
ctacttctag gaatggattg ttcaggaaat aaaaataaaa ctaagtgcct agagatacat    44040
atttgggggat attccaattg tctcttgtgt accacaagag taggtgctgt ggtttgtcaa    44100
accctgcctt agaatgctat gcagtagtta agaaacaggc agatttctat tggctggcag    44160
aagagaacca ggataaattg ttgaggaaga gagcaagttg cagaactgta catataacat    44220
gccattttta tttcacctcc tccacccact caatgaactt gccagtctgt gaacaataat    44280
atgtaatgtt tataaaattt gtgtgggcat agaaagagtt ctgggtgggg cacggtggct    44340
catgcctcta atcccagcac tttgggaggc ccaggcatgt ggattgcttg agcccagtag    44400
tttgagatca gcctgggcaa cgtggcaaga cccgtctcta taaaaaatac agaaatgtag    44460
ttgggcatgg tggtgtgcgc ctatagtccc atctcctcag gaggttaaag ctgaaggatt    44520
gcttgagctt gggaggcgaa ggttgtagtg agcccaggtt gtgccactgc actccagcct    44580
gggtgacaga gcaagaccct gtctcaaaaa aaaaaaaaaa aaaaaaagt tctagaaggc    44640
tacacaccaa acttacaaaa cttacaacag tagttacctg tggggaggaa gattaggtcc    44700
cctgtcctcc tttgagtaac aataaaagaa aaaaccttg aaaaaatgac ctcttgactt    44760
gtggaactgt tattttcata gttagtagga gtttaacctt gctctggtct caccttctca    44820
tccccagata aaagctgagg atgaccagcc cctcccggga gtcctcttat ccctgagcgg    44880
tggcctgttt cgttccaacc tcttgaccca ggacaacgga attctgacat tctcaaacct    44940
ggtgacgtgt tctgcaattt accacctgcc tgtcttccct gagagagagc caggatgcag    45000
catgcgagac ttacgtgttg cttgacaacg tgagaagaga aggccaatgt ggagtggttt    45060
cagtttcttg ggggcccacg gtcattagag tattgctctt actcgaactt aatgctgctg    45120
attcatgttc ccttccacac gcacttcttg ttttctgatc acccgcttgt cactaagaca    45180
gtgtaattaa tttccctggc cacaacggct gctctcttag gcgtcttctt gttttgccac    45240
ggaatcatgc ttatgatgct gagtcttgtt tggtggttag cttgcgtttc ttctgaaaag    45300
acattccact tggtgggaag agagcagcag ttttttcttc aagatgcagt cggaggccct    45360
gactggtggg gattcaggaa gtgtgtgtta gttggtcatc ttgtcagtca tggtgacaaa    45420
gtggctgtgg tggggctact ggagaccggg cagcagggc atctgaagac accactttgc    45480
agtgatgcag actgctcctt acttgctgtg tcctatcagg caagttactt tgcctctctg    45540
agcctcagtt tctttattca ttaaattcaa atatgagcca ggtatggtgg cccacgcctg    45600
taatcccacc gctttgggag ggtgaggcag taggatcgct tgagcttggg agtttgagac    45660
cagcaacata ggaagacccc atctctacaa aaaataaaaa aattagctgg gcatggtggt    45720
gcatgcctgt ggtcccaggt actcaggagg ccgaggtggg agatttgctt gagcccagaa    45780
ggttgagact acggtgtgct gtgatcgtgc actccatcct gggggacaga gtcaggccct    45840
gtctcagaaa aaaaaaaaa aagaaaaga aaattaaat atgacttcta cctctctgag    45900
tcattgcagg caggtgatac catcagctgc cgttgttaga gttgtgattg ccattacctg    45960
actgtgagtg gtgattatag agagagggtt actatttctg gctgccaggg aagccatggc    46020
gctcccctgg tgtaattctg gtccatcgtg acattcgccc ctcactttta agccatgcct    46080
```

2907

```
agatgtggct gctgaggctc agtgtgatta tcttggcaga gccctggcca gtattacttc  46140
aaacccatga tgaaggagtt ccggtttgag ccatcctcac agatgatcga ggtgcaggaa  46200
ggccagaacc tgaagatcac catcacgggg taccgaaccg cttacaggta agtgccctgg  46260
ccaccccact ctcttccagg gctgggctgg tgaatcacat tcaggcctct gttgcctgga  46320
aacgcatccc aggcttcaca ctgattttac ttgggaggga agggagatga gatatgaggg  46380
caaaggagtt ttgactgctg cccttctctc ctaggagctc aacctggtgg ttcagtctca  46440
aatttcctat tttggaattg gcttgagaga gccttttgag ttgctaaaag cttttatta  46500
tttttattt tttgagacgg agtttcattc ttcttgccca ggctggagta caatggcgca  46560
gccttggctc actgcaacct ctgcctcccg ggttccagca attctcttgt cctggcctcc  46620
caagtagctg ggactgccac catgcatggc taattttct attttagta gagacaagat  46680
ttcactttgt tggccaggtt ggtctcggac tcctgatctc agatgatctg cctgcctcgg  46740
tctcccaaag tgttgggatt acaggcgtga gccactgcgc ctggccactt ttattttta  46800
aaagagtttc aaacctgaat taaattatta aaaggagaaa atgtgctcag ttgaataaaa  46860
cttcaaaatg ctgaaaagag tatagtgtaa aatttcccct ctgtctcgtc tcctagccac  46920
ccaagttcct cttctgggag acaaccagta cttccagttt ttctgaatgc tcccagctgt  46980
agatagatag atacacatga gtgtctggca aggcacagtg gctcacacct ataatcccag  47040
cactttggga ggctgaagtg ggaagttctc ttgagtctgg aagttcaaga ccagcctagg  47100
caacatagca agaccccgtc tctacaaaaa aataaaaata caaaataaaa aagatacaca  47160
tctatagata gagagatgca tacatatata catgtataca cacagataca cacatatgtg  47220
tatttttgt agacttatac agaatcactt tagaggaaga gtaattggaa agattgggtt  47280
tagaaaaatg gaccattttc tactgaatat atggagtgaa agaggaagtg agttatttcc  47340
atgttattga aagctccatt atttcaaata aagcctagaa agaataaaat aaagctttag  47400
ccttcttaaa ttacaatttt ccagagcatc cctcaaaatg tatgagaaaa gaaattgatg  47460
gcagcttatc cctccggcag gaaggtgtgg tttgaaagtg ggccggccac accgagttgc  47520
ctgggtcatt gaggcacagt tctcccctga actattttgc cccataattg ttggtaaacg  47580
ggaaacactt gggtccttca gataaccatg agaatatctc attcgtgcct gttcttgcca  47640
tactagttgc tatggcacag tgtcttcctt aaacggagag cccgaacaag gggttgccat  47700
ggaagcggtg ggccagaacg actgcagcat ttacggagaa gacaccgtga cagacgaaga  47760
gggcaagttc agattacgtg gattgctggt gagacttgga atgtgttttc tttggggact  47820
tttttttcat cctgtgtcca gaagtatctt gtggtggccc caagactgct aggagtgggt  47880
tgggcgagag ggctgggggt ggggctctgg agccctccca gttcttacct ttaattggta  47940
gagtttgcct tttttctagc caacaggtca gatcaaggat ctgtggcaca atggagttgg  48000
aaaaccatgg gtttggtagg gcttttccct agcagtatgt ggccatggct tacgccaggg  48060
ctcaagccaa acgcctatgg agccagaaga gcagtatgaa cggggggagag gaggctgtgc  48120
gaaatgatag ggagtggtga gggctgtgga gtgggcacgg cctgtggaaa gggacagcct  48180
gtcacttggt tccagcttat tgtagccatg ggagaagaca gagtcagggt tgccagatcc  48240
ttgaaatttt aaaaagagaa gtcagaaatt cccacttccc agaaataata cccaacacaa  48300
gcatttggga atgcttatgg tggacattcc agatatccat caatgtgtat atacgggtag  48360
aggggagggg tggatggaga ggaaaaacat cttagaagag taagagcaca tagtatgctt  48420
ggaattttga aataagaaac caaatttgat ttatttgggg gtaggagaaa atgaaactga  48480
gttgggatgg aaggagtcgc aaaatttcag atgtttcaac actaggggtg ttcttaaagg  48540
aactctggac tcttaaggtt aacaggccac agattaggaa atgaggggag agaaatgctc  48600
ctgtcttaat gatctcgtgc agccaaacca ggcttggacc aggcacgata cgacaagccc  48660
cctttctaga gaactgactc ctgagttttt ttgcagccgg gatgtgtgta ccacgttcag  48720
ctcaaggcag aaggcaacga ccacattgag cgggcgctcc cccaccatag ggtgattgag  48780
gtaaggcatt cagtgctgcc gctgcacctg ggtgtgggtg cctccctaat cagaagtcct  48840
cccgtctcct ctggctgtct gcctttcatc tgtggcgggg ggaactttca tcctaattaa  48900
gggtcctctt agaatagtgt catcttcaca agcagaatct tatgtgggtt tttagtgaac  48960
agcgttgctg tcatgcatcc agaaaggaaa ttggaactgt tgtatcctcc ccgcgacttg  49020
ccctgtaagc tctgatcatt attctgcaag ttaaggaact taaggcctaa gcagcatttc  49080
aaatcaaggg acaataatag aacatgggct taatgggtgg cagggccacg cagttatctt  49140
aggttcagat gacctttttc ctgctcccat tttgtgggca gagtcttttg atactcaaga  49200
tcatgaccta gctaaattaa tccctaaaga ggacatcctt cgagtcacag aatgtggcct  49260
gggaatcatt tgaagtaagg ctttttctctt actgagtaac tctcattggg aagactagag  49320
ggcttaggta gggcaagagg ggctgcctct tagtggcttt atttaggtgg cttcattatg  49380
catgaagatt gtgagggagg atagaacttt tgacctagga agtggatttt cttttttttt  49440
tctttttttt ttttttgag acggagtctc accctgtcac gcaggatgga gtgcagtgcc  49500
gtgatctcgg ctcactgcaa cctcctcctt gtgggttcaa gtgattttcc cacctcagcc  49560
tgtagctggg actacaggca cacaccatca caccgacta attttgtat ttttagtaga  49620
gacggggttt caccatgttg gccagattgg tcttgaactc ctgacctcag gtgatctgct  49680
cgcttcggcc tcccaaagtg ctgggattac aggcatgagc caccgcaccg ggccggaagt  49740
```

2908

```
ggatttcctt gacgtctttta cggtgttggc attttaaatg gctgggatga ctgcatctca 49800
caccaaaatg ctttgcatgt tctcggtgta gtaacttagg ccaggatcac tagcataatg 49860
tggactgtgg ccgggcaggt atgaaaggga aggggccgg ccctctggga tctcgcaaac 49920
tccatgtaca gacctcacgc agaggggtg ctgtgactct gccctgctc taacaggcaa 49980
gagcatcctt ctcctctttt tttttaagag aagctggaaa atctggcttc atatatgaaa 50040
tttcttaatt tttaacatgt tggcaagtaa ttcaaacgta gaaaaaaat actgtgctttt 50100
cgaaatgaaa tgtgtctatg ggccagggat atgcccctgc tctaacaggc aagagcatcc 50160
ttctcctttt tttttaagag aagctggaaa atctggcttc atatatgaaa tttcctaatt 50220
tttaacatgt tggcaagtaa ttcaaacgta gaaaaaaat actgtgctttt tgaaatgaaa 50280
tgtgtctatg ggccagggat agccatcttc tgtcagtttg tgaccttgga cgtagggtac 50340
tcaatgacaa acttcgcttc cttaatgtaa gaagcaaagt ttgccatgaa gcagctctca 50400
ggccatcgga cagctggcat agaagttcct ccaccagctt tctcatcact ggcattccct 50460
ctttctctct ctaggttggg aataatgaca tcgatgatgt aaacatcata gttttccggc 50520
agattaatca atttgattta agtggaaatg tgatcacttc ctctgaatac cttcctacgt 50580
tatgggtaag tccagacttt taagctccaa gtattgtgtt ccctttggct ttgagacaag 50640
tacgaatggg atgtttttgg ttttgtgcct gtctcgtgcc ttaggtgtga caggtggagg 50700
tgctccagag tgccgcctgc tgagggttga ggttgagatt taagaacctt ggaccacaac 50760
acgtatttgg gagagtgatt gccagttgtg ggagagaatg tggtccagtt tcagataact 50820
gtctgccatc agttaatctt ccaaagaatt atagtagaag cctgatcaat gatcaataca 50880
atatggaatc taacgtggaa agccaattct aaagaaagcg ccttgtaact taaaattttc 50940
tctggagtgg aggtcgtatt aaacgttctt gcattggttt aaagaaatgc ctgaggctag 51000
ataatttata acaaaagagg tttcattggc tcctcgttct gtaggttgta caggaagcat 51060
agtggcgtct gcttctgggg aggcctcagg aggcttccaa tcatggcaga aggtgaagtg 51120
ggagcaggca tgtcatgtgg gagaagctgg agcaaaagag agagttgggg catggtgcca 51180
cacactttta aatgatcaga tctcacaaga ctcataacga agacagcacc aagccatgag 51240
ggatccaccc caaagatccg atcatctccc accaggccct acctccggca cgggggatta 51300
caattcaaca tgagatttgg gcagggacaa atatccaaac agtatcagag gtggtggacg 51360
gtgggctgga gagcaggtgg tctgggcttt ctcttgtctc cagtagtgac tcaccttgct 51420
gcctgggtca gtcacttcat ttccacatgc ctcaacttcg tcctctgcaa aacctagatt 51480
ttggactcag agacctctta taatcttgtt cagctctaac aaaatctcca tgttaccatt 51540
aatgaagaaa tgtttataaa ataccctgca gaccctctgc ggatgttagt gatttgctct 51600
ggggtacat tgttaagatg cacttgtaat tttataagca gttaagtatt tggcatgggt 51660
gagaaagtgt gtgtgcgctt tagtccactc tgtccagggc ttgcaggcgt gtgcttgtag 51720
ggaccaggca ggtaatgtca gagagtgcag agggttgggt agggtggggg gcaaactggg 51780
gaactcctgc cccatccatg aggggcacaa gggaggggaa gaggcagaga ggaggggagg 51840
gcgccactct cttgctcctg agtgttgctg tgctagaatt gaggctcagg gttggtgtca 51900
cttcccagtt ttccggagaa gctggaaatt agaattattt gaaatcacct gattttaaa 51960
tatagtcggt gaattcagat ttacttaaga tgttatagaa gaaaaaagaa cacataaggg 52020
atcttcaatg cgacccataa ccttcagtct gtgactttca ttttaggaaa attccccttg 52080
tgtgttatgt agaaaggtgc cagtgtgggc ccagggaggt ggtcctggca ttctcttgcg 52140
gcaggtgcac tgtggcatcc tcacagcctt tgccatcagc cagggctgca ccttaaccct 52200
gctcatgccc catcccgtgt gggagtgaga acaggcaaga accccagaaa taaagccaga 52260
aacaaagtac tccagtgcct cctgaagcag cgtggagagc cacgtacatg atggaatgcg 52320
ttttgagttt aacagattgg tggagttaag gtgacatcat atgatgaggc agtgcaaggc 52380
gggaaggacc ctcaggagtc gtcagggggt tgagtcccag gctctaccat gtgtaagttg 52440
tgtgacctta ggtgactttg gctctctggg tctccatagg gataataaca atacctgttt 52500
tgtagtcagg attggcgata atgtagataa aatatctggc gcctgcctgg catattacag 52560
atgttcaaca cgtgttagaa gctattttta atattactat tatattaact tatattacta 52620
ttttgagcaa gaacatgggt agtcagaatc tgatttgaat cttaatttct gtgcatgata 52680
cataactgga tggagtctca gatgacagag ggatgtgtga tgtctatgga gggagctttc 52740
tttttcaaat atccatgttt ccaaagacac ccacccagag agcggctgtc ctgaggatgt 52800
ctgctatgaa atattgattg tgtttcagtt tcaaagcatg tctgactttg tttctccctc 52860
caggtcaagc tttacaaaag cgaaaacctc gacaatccaa tccagacagt ttcccttggc 52920
cagtccctgt tcttccattt cccccactg ctcagagatg gcgaggtaat gcctgtggcc 52980
ggattctacc ttctgccttt gttttaataa ttctgctgtt agtttaagg aagcacagtt 53040
ctctcctttt ctccctaaat accactctgc agaaatgcgc tctctgaatc aaaagaggtt 53100
gggttctgta gggattattt tttcttcatt gttttctgt ttacaaaaag aatacatatt 53160
catggcagga gattttggga aaagaagac ataagcccat catccagaaa tagccactgc 53220
taacacggtg attggtatcc tttgggtctt ttttcaggca cgtgtgcgca tgcatgtata 53280
aatataaata gacatttatt ttaataattc aaaactgaca ctgtttgta cattgtttttg 53340
taatccatgc ttttcaatga agaatttatc acaaatctgt tcctcatcat caaatctttc 53400
```

                                    2909

```
tttttttttttt tttttttgag acggagtctc gccttgtcgc ccaggctgga gtgcagtggc  53460
gcaatctggg ctcactgcaa gctccgcctc ctgggttcac accattctcc tgcctcagcc  53520
tccgaagtag ctgggactac aggcgtgcgc caccacaccc ggctaatttt ttttttttgt  53580
attttagta gagacggggt ttcaccatgt tagccaggat ggtcttgatc tcctgacctc  53640
gtgatccacc tgcctcggcc tcccaaagtg ctgagattac aggcgtgagc ccccgtgcct  53700
ggccaaatct ttcatactat gattttatg gacagtagtc cataaactag gaaacgccat  53760
gatttattta accaaggcct actgttgggc atgatcgact cttgcacttt gaacatatca  53820
ccccatgctt tcctgctaag aagtccactt ttaaaaatgc cttgtaattt ttaaaaattc  53880
ctctatttta acattccgct attgagttta gggaaataca gtttcctcat gatggggggat  53940
cccttgaatg agatgagttg cttttctctt gctgctttga acgttctctc tgtctttgat  54000
aatctgatta taacgtgtgt cgtgtagaac acttgcagct ccaccttttc agtgtccttt  54060
gggttccatg aatctggatg tctccctcct tggaactggg aagttttcag ccattattct  54120
ggccgtcatt tactgattat aaagtgctta ttatcaattc tatttggaca gagctaactt  54180
gtagttggtg tggggagtgc aaactttgca aagaatttgg ttctttctg gtggtcttag  54240
cctgaggatg tcaagtgtga gcctagaggg tgacgtttcc tctcctggct ccttaccacc  54300
tgccgtgaag atgatctact ctggcctttc tctgtggaaa atggctgcga aataatgaaa  54360
caggctgtca cggaattttc tcctcctctt tctccagggg tgttgaaata gtcacttcct .54420
acagcgatgg ggaaacatct tgggctttgg ggtcacactt cccctgagtt cagagccttc  54480
atagatgtgt ggcagccttc ttagctgagt gaccttgggc aagttactct tagtctcttc  54540
gtgtttgact ttcctcgtct ataagacggg gtgatgatcc cgaccttgcc agtggtagaa  54600
agcaaagcag ccgcgggcct catgcaatgt gcatggtgcc tggcagctgg tcggtgctca  54660
gcacacagag ctgtgacggg cctcatgcaa tgtgcatggt gcctggcagc tggtcggtgc  54720
tcagcacaca gagctgtggc tgccctggt gccgttccag ggatgctgta tttttaggat  54780
ttgccagctt acgagcctct caagcatcgt cccttagaag tcagcccgt tgtggatcct  54840
cagttgtatc acgtacctcc cttatcagaa ttggctcata ataatttttt gtgtttcata  54900
aagtcagatc ctcagaggac cgtaattgtc aaggttgggt actcataaaa aggctgcagg  54960
ctctgacagc cttatcagaa gccacagtct cagagacact ggggacacat gcccgccact  55020
gatggaatag cccgctgagg ttgatacttt gaaggcagca accttggttt ggatgtgtag  55080
tcttggggat ttctttaaaa acataaagtt ctttacatca cagccatacg ttaggtttta  55140
gttttcattt gctttgccag agctgtcctt ataaaaataa cttcttccca tgtgtgcaca  55200
gaactatgtt gtgcttctgg actccacact ccccagatcc cagtatgact acatcttgcc  55260
tcaagtttct ttcaccgcag tgggctacca taaacacttc accttgattt ttaatcccac  55320
ggtaagtaaa agagggagtt aaaaaaaaat ccatgggctg ggtttggtgg ctcacgcctg  55380
taatcccagc actttgggag gccaaggctg gtggatctct tgagcccggg agtttcagac  55440
cagcctaggc aatacggtaa aaccccaact ctacaaaaaa tacaaaaatt aaccgggcgt  55500
ggtggaacgc acctatagtc ccggctactc gggaggctga ggtgggagga tcacttgagc  55560
ctgggaggtt gaggcctcga tgagccatga tcatgcccct gcactccagc ttgggtaaca  55620
gagtgagacc ctttctccag aagaaaaaca aaacaaaaca aaacaaaaca aaacaaaaca  55680
atccatgggg tggcgaaaga aggcatgtcc atacaacctg tgctccaggt cgcaggttgc  55740
agggcagata tttaaagggc tcctggcatt gggtcacttt ctcattctgc cttctggatt  55800
ctgggcttcc ccagattgtt tttagctttt ctgagcactg atgcctgcga ttccctttga  55860
ggaggaaact ggtaataaga gcagtgtaat tgtttagatc ggtggctcag gaatgatttt  55920
ggggggaggag ggacaccact atcgctggtg tggcgtgtgc ttctccatga gggagcacat  55980
ggtacatggc cacgcaaacc cctagaacca actgctactt tacaggaaat agggaggacc  56040
caggagcacg caaatgactc cacagggatg caggacaacc acctggagcc tgatttgttt  56100
gacaaataaa ttgcaaggaa aaaaaaacca acaacagatg gacagaatac ctgtgggtta  56160
aaagaaactt aacttatcgc ttaattcatt gcaatatgtg gcccttacta tttgcaatat  56220
gtgtatctgt tgcatacggt ctgtcctgta tccgataggc tggaacagtg gaacaaacaa  56280
aacatacacg tatcttttac cttcttgata aaattgttta gtgattccta aagctcagat  56340
gcagtattgt cacctgatga ttaaacagac acatcagcaa tagcaaaaac agagtccagg  56400
gctcagcctc aggactgctg attctgaact tgacggggtg aaagtgtagc acaggagtct  56460
gcattaaaaa caaaaatctg gcctcatagc tactgtgttg gttcttgctt ctaggccttt  56520
tcagtgggca gaataagaac tttattgttt tcaaaaaatg taactgtaag tggaacaata  56580
tcttccgatc ctcctttttc ctttttgat aacgacacag cattcctctg tgtggatata  56640
ccgtgtgtct taggccattt gggctgctat tttgtatctt agactgggta acttataaac  56700
aacaaacatt tatttcttac agtactagag ctgggaagt ccaagatcaa ggcattggca  56760
gatttggggt ctggcgagga cttgctgtct gcttcataga tggtgccacc tagctgtgtc  56820
cccacaaggc ggaaaggggc aaacaagttc cctcaggcca ctcttacggg gcattaatcc  56880
ctgacttaat cacctcctaa aaagggtgtc ctcttgacac tatcacatta tggattaggg  56940
ttcaacctat gaattatgta ggcacagaca cattcagatc ctggcactac atgtaggata  57000
ttcagttagc ccctggttga ggggcgtttg tgttgttact ggttttctgc tattacacat  57060
```

2910

```
aacccttttaa tgaattgcct tacgcatgca tgttttttgag tgttcgtcag tctctctttg   57120
gaatagactc ccagaagtgg aattgctgag tcaaagggta aatgcatatg gaattttgat   57180
tgatacggcc acttcccatc catggggggtt ttactgtttt atattcccgc cagcagtgaa   57240
tgagtaccct ttttttcccca acagagtatt ttgtcaaatt tttcaatttt tgcaggctta   57300
tagatgagaa gtgatattat ctcagtgtac ttctaattgc atttctctct tttcatgtgg   57360
ttaagagcca tttgtatttg ctgtgaacta tttaacctat ttttctatag aatttttggt   57420
ctttttcaac cattttcagc tctttgtata ctaggaatat taaccctttg taatgtttgt   57480
tgtacatatt tttcccaatt tgtcatttat cttttcactt ggtttctgca aagatttact   57540
ttatttctgt gttaaatgtg ttgattttttt cttattgctt ctggatttta gagtcatagg   57600
aaggttttct tcattcccag cttttacagg aatttatcgt gtttttttca ggcagacttt   57660
tatagtttct gttttttacat ttaaatctct ctatccattt ggagtttttc ctggtataga   57720
tgtgaagtat ggctccagat tgtcttttttc cacatgctat ccagttacca tttcatgctt   57780
ttcaaacgcc atcctgcatg gaaggtggac aggaattacc tttcatttag agatgagaag   57840
atgggaacct agaaggagat gtgagcagcc caaggtcacc agctcacgtg gagcagtgct   57900
agggcttgag cagagctctg ctgctgattc tgggcttctg tgaagagtga ttcatgctca   57960
gtgagcctgt aaatatgatc ttacctgaac aagagagttt ttctcatgac ccacgaggaa   58020
acacttcctt gttactcaca gtagagacct ggttagaaag tgctggagag ggctaggtgt   58080
ggtggctcac gcctgtaatc ccagcatttt aggaggctga ggtgggcaga tcatttgagg   58140
tcaggagttc gagaccagcc tgggcaatgt ggtgaaagtg aaaacccatc tctgctaaca   58200
atacaaacat tagccaggcg tggtagcacg cacctgtaat cccagctact cgagaggctg   58260
tggcaggaga attgtgaacc tgggatgcag agtttgtagt gagctaagat agccccagtg   58320
cactccagcc tgggcgacag agcaagactg tctcaaaaaa aaaaaaaaaa aagaaagtgc   58380
cagaaagata agcatataca agaaccactt accttgctt ggggctgcat tgtggcccag   58440
ttgctgggag aggcttctgt gaaggccgtt gatagctgca ggcagtgaca ttctcagggg   58500
cccctagcag acaactcatc cgggctcagg gacacacctg ggagccagtg gcaggaatgt   58560
ggagacactg cttggtggtg gccgagcagc ccagcctcgt agctgctgcc tgtcacttct   58620
gagaatgtaa gaaactgtgc cctggtgtgt gatgttcccc ttcctgtata cctatgtaac   58680
caacctgcac attgtgcaca tatatcctaa aacttaaagt ataattaaaa aaaaaaaaa   58740
aa                                                                   58742


<210> 6006
<211> 2646
<212> DNA
<213> Homo sapiens

<400> 6006
gtttgacaaa taaattgcaa ggaaaaaaaa accaacaaca gatggacaga atacctgtgg      60
gttaaaagaa acttaactta tcgcttaatt cattgcaata tgtggccctt actatttgca     120
atatgtgtat ctgttgcata cggtctgtcc tgtatccgat aggctggaac agtggaacaa     180
acaaaacata cacgtatctt ttaccttctt gataaaattg tttagtgatt cctaaagctc     240
agatgcagta ttgtcacctg atgattaaac agacacatca gcaatagcaa aaacagagtc     300
cagggctcag cctcaggact gctgattctg aacttgacgg ggtgaaagtg tagcacagga     360
gtctgcatta aaaacaaaaa tctggcctca tagctactgt gttggttgtt gcttctaggc     420
ctttttcagtg ggcagaataa gaactttatt gttttcaaaa gatgtaactg taagtggaac     480
aatatcctcc gatcctcctt tttcctttttt tgataacgac acagcattcc tctgtgtgga     540
tataccgtgt gtcttaggcc atttgggctg ctattttgta tcttagactg ggtaacttat     600
aaacaacaaa catttatttc ttacagtact agaggctggg aagtccaaga tcaaggcatt     660
ggcagatttg gggtctggcg aggacttgct gtctgcttca tagatggtgc cacctagctg     720
tgtccccaca aggcggaaag gggcaaacaa gttccctcag gccactctta cggggcatta     780
atccctgact taatcacctc ctaaaaaggg tgtcctcttg acactatcac attatggatt     840
agggttcaac ctatgaatta cgtaggcaca gacacattca gatcctggca ctacatgtag     900
gatattcagt tagccctgg ttgaggggc gtttgtgttg ttactggttt tctgctatta     960
cacataccct ttaatgaatt gccttacgca tgcatgtttt tgagtgttcg tcagtctctc    1020
tttggaatag actcccagaa gtggaattgc tgagtcaaag ggtaaatgca tacggaattt    1080
tgattgatac ggccacttcc catccatggg ggtttttactg tttttatattc ccgccagcag    1140
tgaatgagta cccttttttc cccaacagag tattttgtca aatttttcaa ttttttgcagg    1200
cttatagatg agaagtgata ttatctcact gtacttctaa ttgcattttct ctcttttcat    1260
gtggttaaga gccatttgta ttttctgtga actatttaac ctattttct atagaatttt    1320
tggtcttttt caaccatttt cagctctttg tatactagga atattaaccc tttgtaatgt    1380
ttgttgtaca tattttttcccc aatttgtcat ttatctttttc acttggtttc tgcaaagatt    1440
```

```
tactttattt ctgtgttaaa tgtgttgatt ttttcttatt gcttctggat tttagagtca    1500
taggaaggtt ttcttcattc ccagctttta caggaattta tcgtgttttt ttcaggcaga    1560
ctttttatagt ttctgttttt acatttaaat ctctctatcc atttggagtt tttcctggta   1620
tagatgtgaa gtatggctcc agattgtctt tttccacatg ctatccagtt accatttcat    1680
gcttttcaaa cgccatcctg catggaaggt ggacaggaat tacctttcat ttagagatga    1740
gaagatggga acctagaagg agatgtgagc agcccaaggt caccagctca cgtggagcag    1800
tgctagggct tgagcagagc tctgctgctg attctgggct tctgtgaaga gtgattcatg    1860
ctcagtgagc ctgtaaatat gatcttacct gaacaagaga gttttttctca tgacccacga   1920
ggaaacactt ccttgttact cacagtagag acctggttag aaagtgctgg agagggctag    1980
gtgtggtggc tcacgcctgt aatcccagca tttaggagg ctgaggtggg cagatcattt     2040
gaggtcagga gttcgagacc agcctgggca atgtggtgaa agtgaaaccc catctctgct    2100
aacaatacaa acattagcca ggcgtggtag cacgcacctg taatcccagc tactcgagag    2160
gctgtggcag gagaattgtg aacctgggat gcagagtttg tagtgagcta agatagcccc    2220
agtgcactcc agcctgggcg acagagcaag actgtctcaa aaaaaaaaaa aaaagaaag    2280
tgccagaaag ataagcatat acaagaacca cttacctttg cttggggctg cattgtggcc    2340
cagttgctgg gagaggcttc tgtgaaggcc gttgatagct gcaggcagtg acattctcag    2400
gggcccctag cagacaactc atccgggctc agggacacac ctgggagcca gtggcaggaa    2460
tgtggagaca ctgcttggtg gtggccgagc agcccagcct cgtagctgct gcctgtcact    2520
tctgagaatg taagaaactg tgccctggtg tgtgatgttc cccttcctgt atacctatgt    2580
aactaacctg cacattgtgc acatatatcc taaaacttaa agtataatta aaaaaaaaaa    2640
aaaaag                                                                2646


<210> 6007
<211> 287
<212> DNA
<213> Homo sapiens


<400> 6007
tttatttttt tgagacagag tcttgctctg tcgcccaggc tggagtgcag tggtgcgatc      60
tcggctaacc gcaagctccg cctcccaggt tcacgccatt ctcctgcctc agcctcccga     120
gtagctggta ctacaggcgc ccgccaccac gcccggctaa gtgtttatat ttttagtaga     180
gacggggttt cactgtgtta gccaggatgg tctcgatctc gtggcctcat gatctgccag     240
ccttggcctc ccaaagtgct gggattacag gcgtgagcca ctgtgcc                   287


<210> 6008
<211> 331
<212> DNA
<213> Homo sapiens


<400> 6008
tggctaattt tgtattttta tagagacggg gtttcaccat gctggccagg ctgttctcaa      60
actcctgacc tcaggtgatc tgcccacctc agcctcccaa agtgctggga ttacaggcgt     120
gagccactgc acctggcctg aattaaactt ttaagtaagt gtttacttca gtggaaaaat     180
gggttgggtt ctaagagatg tccaaagata caggagtagg cagttgttga tggaaatctg     240
ttcctgccct tattctttca tttatgaaag ggcatcccag gtacagcggc gcccacagtc     300
actctctagc ccagcagttc ttggatgggt t                                    331


<210> 6009
<211> 331
<212> DNA
<213> Homo sapiens


<400> 6009
tggctaattt tgtattttta tagagacggg gtttcaccat gctggccagg ctgttctcaa      60
actcctgacc tcaggtgatc tgcccacctc agcctcccaa agtgctggga ttacaggcgt     120
gagccactgc acctggcctg aattaaactt ttaagtaagt gtttacttca gtggaaaaat     180
gggttgggtt ctaagagatg tccagagata caggagtagg cagttgttga tggaaatctg     240
ttcctgccct tattctttca tttatgaaag ggcatcccag gtacagcggc ccccacagtc     300
```

actctctagc ccagcagttc tcggatgggt t

<210> 6010
<211> 9525
<212> DNA
<213> Homo sapiens

<400> 6010

```
gttcccatgg tgcacggtgc tacgccagcc actgtgtccg cagcaacaac atctgccaca    60
agtgttccct tcgctgcaac agccacagcc aaccaggttt gctaatttac agctttgttt   120
cttaaaaaac aactctaata gggctcaatc caacagccct tacgcacgtg gatttcccat   180
tgaggtcagt gggaatcgtg tgtacgtgag ggctgtagag ggtgctttaa taagcatggg   240
gtttcaaaga tacctcttgt tggcctacac attctctcta tgatgagcag cagaatgctt   300
ttatgccatt tataagtgct ccaaagtcgt cgcagctcca tttctgaagc tactaaaatg   360
atatttacac aagcaattct caattggttt caacaatcgt gcaggtattt tgaccaatca   420
taaatagagg ccatttttaa ggttttattt taaaatattg tggtatatac agtttcttag   480
ttcttgccta aatgattaat agaaagtaaa atacttaaat gtattacgta tgccacaaat   540
gaccactctt gtaaataagt ttgttataaa ttcattataa tctgaatcat ttaatgagca   600
gattcaaaat aaattgtttg catgtagcat ttctaagctt ttattctcaa tgctttcagt   660
gaaagaaaaa tcctaagcgc tcttatttt ataattaccc tgcataaatg ttggagattt   720
atgaaggaaa agaaaagaaa ttaagtatgg caaattgaca gtcattctgt attccatgca   780
aatttattgc aggatacttt taagtgaaag ggatttgttt cataaattta aattttatga   840
tatacaataa taactatttta aaaataaatg atgatttaaa atatttaaaa tttaaaaatt   900
gacatttatt cacccagcat tttctgattc tacttaaaaa tatttctag aaaatactgg    960
ttgatttcaa gtttcattta tgtagatttg ggcttcaata gagttgatag tgtatgaaaa  1020
acatagagcc aagccacatt tcagataatc cacagaggaa gattaaaggt agccaaatga  1080
atctcaaaag aatgagtgtc agatgaaaat gaacatgttc cccttggga agggaagacc   1140
aattaagaca tagatttgtt gttattactg tgaggagtag ccacccttgt tctataatac  1200
atcacgtact gttgatgaag aacattcagc tattagtaca gccattaaaa actttcaaaa  1260
tcagaacaca aaaatgaatt taacgtttca gtcaagcttt aaacatttct tggcaaagaa  1320
tcattaattt ttcagaagct tgtcaaaata gccctgggtt tacatgaaca cgtcagactc  1380
atttacaaga atgctagatt gtgcatatgt ggcatgttaa taagtaacct ttggtagaac  1440
tattatgatg gattcaatac aatccatcta tggtgcaaat caatgataaa gaactctcat  1500
gcgtctacca tgtatgactg tagaattgct ggtgtaagca gaactatagc agagcaaatt  1560
tcaacatgcc cttggccacc tgggttgtag gggacacttt actttttgca ttgtgctgtg  1620
accatttcat gcataatctt ggatcttcat actatttgac aaccaaaaga aagaaaaggg  1680
aatggatata tatatacaca catatattat atctacatat acatacatat gtatatgcct  1740
acagtacatt agcaatgctg gaaatagctg atgccacaaa atgcagcctg catgcatgca  1800
gaagtttata gctggccctt catctgcatc gattggtgtt gaaggtcctt ggtatgtttc  1860
gacagcccca tccttgatgc ttctacactg ttgggtgcaa catcctgtcc tgcagcagca  1920
ggaaaaatgg tatgagaagc ttcattatgc ttggagcaca ttttcgtgcc atttgccaat  1980
gctgtaaaat tgtgtaaaaa tgtcagctga gaactggaaa taaaacaggg acatattaat  2040
atacacgcca gactgtgaa tgtagtatgt tgaattagcc taagatgtct aaattgaaag   2100
aacagcaaca aaatgccttt gtgtatctga tttcattatt ctcccaacaa cattgctgaa  2160
atgggattag tatcatttta tagaagagac ttaagcatag agtaatgagt tgctttgctc  2220
agggtcacac agccagtaaa tggatctctg gggctagcac ccgtgtcatc agtcctctga  2280
cagtctcaat ccattgtgct gcctctctca ggttagcagg cattaatttc aggttgaaga  2340
atcaagctac aaatccgaag ttcttaactt tgggaactat tgaaataagt caactctata  2400
ttggtttctt attgtatttt ctctcaagtt ctctaattct cttgcccatt taaaatacaa  2460
taaaaggtgt catcaggatt cagaaatatg ttctgaagta aacttaggct cttacctagt  2520
tcttttgaat tactgcttta taattcttac ctggtatttt taatttggaa aaaaaaagtt  2580
agacaccta atttgaacga aaatgttaga aatttggtgc acaaaaatag gcaagacatt   2640
tccttatctg atttctggat gattactaag taactgaaac cacggggggtg cgtgtgtgtg  2700
tgtgtgtgta ggccaacaaa aagggcttct ttcaattact gctctgcatg aattttttgat  2760
agttttactt atttcctaaa agctggtaac atttatagaa tagtatttaa catgaagatt  2820
ttaaagttag ttgctacttt ggcatttaag tttacattaa cttactgtta tgttgaccag  2880
ataaggacta tcacctcaca gctgaatttc acttttcttt aaaaatttaa tattaaaatg  2940
ttttcatctc ttaattgttg gcttgcttgc atggatcatt cattaaataa tttttttattt  3000
gctagatacc cataatatct gccgaacatc tgactagcca caagtatgtt acccagatgt  3060
agaattttca tcactaaaca gtaagttcat tatgtaatat atagttgcat atttgtggtg  3120
```

```
gttttttttta agatagcaat tgtatagtgc acttaaaatt ttgcgaaatc tctgagaaaa   3180
tatatacaga tcacattttt atcttaaatg ggtgtgagga attttatcag acatctttat   3240
aacaaatatg ttaatatcac ttaaatatac aaagtactaa gagaaaataa attttttaaa   3300
tttctgatta gagataaaca cagcataaag aaaatgtatg accaaaaagt aattagaagg   3360
tgtagatcaa gggttggcaa actttcttat agggtcagac agtaagtatt tttgctgtgt   3420
gggccgtatc gtttctgttg cagctactct cctctgccat tgtatcatga aagcagccag   3480
agaccacatg taaacaaatg ggtgtagctg tgttccagta aaactttatt tacaaaaaca   3540
ggcagtacat cacatctggc ccacaggcag tagtttggct gacctctggt gtagattatc   3600
actttttttt tttttttca ttctttggct aaaccttaaa tgggaccatg tacttacttc   3660
atcccatgca ccaccataca caggggcatt agaatgtaat gagtttggct aagcgtggtg   3720
gctcacactt gtaatccaag cactttggga ggccaaggtg ggtggattgc ttgagcccag   3780
gaatttaaga ctagcctagg caacatggtc aaaccctgtc ctacaaaaaa tacaaaaaaa   3840
tcagctgggt atggtagcac actctgtagt tccagctact agggaggcta aagtgggagg   3900
atcacttgag cccaggaggt tgaggctgca atgagctgtg attgcgccac tgcactccag   3960
cctgggcaac agagcaagac ctgtctcaaa aaaaaaaaaa tgtagtgagt ctgactttaa   4020
ataaatatat acacataatc aaatatatgt gtacacacaa atctacatat tcaaatgaat   4080
cttagttact ttaaagtagt tacctcagag gatcatataa ttctgaaaat gttgccattg   4140
ccacatttta aaaatggttt gaaagtcttg tattttgtct ttaaaaacac tgtggtggtg   4200
gggtcggggg aggggggagg gatagcattg ggagatatac ctaatgctag atgacacgtt   4260
agtgggtgca gcgcaccagc atggcacatg tatacatatg taactaacct gcacaatgtg   4320
cacatgtacc ctaaaactta aagtataaaa aaaaaaacaa aaaaaaaaac cactgtctta   4380
aatacttaaa aaggtgtcca tttttcatcc ataggaatat gttttgtcca gtatgcatgc   4440
attcaagtta taacatgtgc tcagatgctt gttatttatt tttatattta gaaagagaca   4500
ttacatttaa aactgaaatt ggttaagatg ggtgaccatt ctttgttgct tcctttattt   4560
atttattaac atatttacaa atgagttttt ggtgctactt tgtgttagtt accatggcaa   4620
ggagataaag gtaaatagat aataagataa agatgtaagg aatttcagga taatatagta   4680
aaataagaga ggtttgaaga aatttctctt agagcaaaga tgaaggagca gctgttccca   4740
acaggatccg taaacaaatg aatgtggaca atgaaggtgt tgttctaaag agaatggagg   4800
tgtaaaggcc ttgtaaaaga aggacagtgt gccaagtcag gaaacgatga tggctgagaa   4860
ccaactcaga aacccttgtg atgttaatct gtagcaaagc tggacaaagt caaagcccat   4920
gcaggagaac aggcagaatt caatagccat ttaagaaaga aatgagaggc tcaactggag   4980
aagtactgcc aaagatatgc tgcaatcgtg aattattaaa attgattttt gtctatttca   5040
taagttttct caaagcagtt ctgataaaaa ggttcagatt ctgaacaata gccacatttg   5100
tagaagaaga ggcattactt tgcagtgttg taggtttaga agaagaggtt ttttgacat    5160
gccagaaaaa tctgtttcaa gctcttatag tcaattaggt gtgtttggta tgtatatatt   5220
taactaaatt ctgtttctta gcaataatcc aggttgaaaa aaatttctaa aaataattag   5280
caaaccagta gttttgtctg tattgaagct aagctttaa tgttctgttc atttaacaaa    5340
tgattgctca tcttcatgag gagttgcaac atttaaactg gtttttgagt cactagatta   5400
tgatttcttt catttttcaag gttgtattgt gaagcatact tttaatatat gtaaatattc   5460
gctgctgaga acaaatttca tgtaaaaact ggaactgtta atccacaagt acattgtaat   5520
gtctattaca gcttaattca tgagtaataa ttctgtaatt caaaaagaat gattttttatt   5580
ttcttagttt taggtgaaaa aagttcaaca aactgaatta cccaaagcca tcacttaaag   5640
tatcattctt ttttttttcaa acatgcatta tgctaatcaa gcacccaaaa agaataaatc   5700
ttgtttaata gaacatatta catgaatttt aattttgtag accagacctt tactcttgaa   5760
accttattaa acttcagaaa agaagtttaa attttgccct acaacaattg tgctaaaaaa   5820
gagctctgta tattaggccc cctgattctg caaatgtatt ttatactttt agtttaggat   5880
tggtaaattt tggagcacat tctacagttt tattaaattg tacgtgttat ttcattcgtg   5940
tagagatgat agacaaattt tgatctgtct actcttgtaa aatggttttt gtttttatat   6000
gaagatataa tgtaaatata ctggttaatc aaaaagaaaa ttttcatatt aaatgtatat   6060
tagaaactgc ttttagatat tacctgttct aacaaagctt atctctttt cccttgtaga    6120
tcatgctaaa gaggaaagga cagtgtgctt ggttagagta aaggacgagg tcattagcca   6180
tattgtatat atcgtcaagc aacacacaca aaagttcctc agccacaaga catccacata   6240
ttgcatgtta accagaagaa aagacaacat tttccggaaa tccactgcac actgttgcct   6300
atacactttg tacatttaat tgatatttgt gctgaggtga tattcctgtc taaaagaaca   6360
acattgtctt tctttttctag cacagagtta tgcattcaaa gatgcatacc tagttagttt   6420
cctatatatt catgccatct tgaaaagaca gactatggtg taaccatgat tctattatgt   6480
attggtacgt ctgtagacca agatataatt ttttaaaaat aagtttattt cttttcaaggt   6540
ttacaaataa caaaggtgca ccttgtattt aaaattgcca ttatagatga gagcgtgcat   6600
gcacagtcat ttttgtttaa gagtaatatt tttaatgtaa tagattgtaa gacgtggtga   6660
gggagggatc tgacagagat gaatgtgcca agcaaaacca caactgtgta tatttttaaag   6720
cacatcatgg ctttaagtac catgttgtta aggattctca tgaagtgcca tagactgtac   6780
```

2914

```
atcaaattag agtattattt cttcagtgtt attgttttca gagccacatt ttgttgcata   6840
tttgctagta ctaatcagtc aaagggcacc attctttttt tttttttttg aaaccaaagc   6900
tgtctcagaa atggccaatt taactttaca gtaacaatag acagcacaac acaaactctc   6960
tcaatacaga taaactcaca catactggag atatatatat aatagatata tataaaatta   7020
ttttaatgca ttgtagtgta atatttatgc atactatact gtataacatg ttattcaaaa   7080
gggattgcca tttctgagac acagtaacaa aaaaatgagg aaattatttt gcttctattt   7140
atagcctctg tcaaaagtca aaagactata aatgctttgc aaaaatggtt tcacgtttgc   7200
ttaaatgctt catcacagtc acattcaaaa tagtgactct aaacaaagaa gaaagcagca   7260
ctgtcatcag atgcatgata aaccaaaata tgaaaatggg aaatgtttaa ttaacctagt   7320
aattgggtgg gttaagtaca tgggtgaatt ttatatgtga tttttgtttt gttttgtttt   7380
gttcagatta actgcttata gccttagaaa gccttttaca aaattaaaaa aaaaatagat   7440
gtgcattcag tttttaagaa tggaatcatc caaaggaatt ccttttttg aggtttggat    7500
gttgcagcta gtaaaggata tttttgctct gttcagcagt tctaaaaatt gctgaagtag   7560
gggccaggtc actggtagtt atagtatgga atgggagaag tgaaagttca gttatagaac   7620
tttccatact tccaagttta ctgcaagttt ttatgcttga gagagatgct ttctaatata   7680
agactgatgt gttgatttta ctgattgtac tgtacatcta ttaaagcctt agattattac   7740
attacgggtt ggaacccata ccaatgtaat ttcaatcgtg ttaagaaagt aatggtgact   7800
tcacatgtta ttgtagttag ttacattata gaatattact tattttttct gttaaaatgt   7860
agttttcat ttcctacatt tattagattt tcattttcta ttaacaattg aataccattt    7920
cagtttatag acttgtttta ttagattta ccaatgaatt tttcaaaata caaaaaaaag    7980
tagttttcc ttcataacat actcagtttt gaattacatg tagtgtcaca tgaatattcg    8040
tattgttaac taaatgattt atattttact gatttaatat tacagtgtaa gaatgtcagt   8100
cattgttagt tcttgtctag ttttcattaa aagaacaaag atcttttata tggatatctt   8160
ataaatatat aatcattgct aagtaagaag ttaagttgtt gctatcgcaa caatcctggc   8220
agacaattga gtaatatttt gatgatttat tttgtttgta attagttatt ataagaagat   8280
ctagatccta gatattagaa taaaatttat tttctactgt atccatttca aatgttaaaa   8340
tattgtttaa tatttttgaa atccctgagt atcaggcctt gttataaata agctgcataa   8400
tcaataaata gaacaaggga ctttttgttg ataatccaaa tactcaaagt ttacgtaatg   8460
aaaattatag cgtgtgtgca aactcttgag ggttgattat gctgcaattt agcatgttgg   8520
aacgtctagg gagaaggttg actttttgca cttctgtata tagtcaaaag agagaaacct   8580
gtataatagt aagatcttat tttgaataaa aacgtctata attacaagga gttttgttaa   8640
ggctaataca atgacagact gagcaaaatt gcttgcaaaa gtggcacaga gttagcactc   8700
catcccctt caaacatgtt gctttgcttt cttgtggaca gcttgtagtt tgccaggatt    8760
ttttcagctg gaaagatacg ccatcctttc aaaccctcat gactgacaaa aactccatgg   8820
ggccaaatct gcctgaagat cattaccaaa aatagcaggt acttctacca ttaaggtgaa   8880
atcatggatc agatattcct tacatttttc aaaactactg catgtttaaa acttcaacaa   8940
aaaaagagag aaagaactat actaagaaca tatattattc agatcagttt ctgccaattt   9000
cagtggttta ttgttcacaa aaaaatcttc aaaacaagta ttgactttca caaaatttaa   9060
atcataaaca ggcaaaccaa acagcacact gtagctatag ttgttatgtg attgttttt    9120
aattgctgta ggatcctgtt ctttcagcag gtgaaaaata aaacgcagtt caaatttcat   9180
ggttttaatt ttcaactcag aagcactcaa aaatgcaaaa tgtgataatg ggcacttgtt   9240
taaaagaatt agtgtatcca gccttcactc cagctggtta aaaatgttgc acttatcagc   9300
aaccctacca ctttcatctg ctgaaaggac aaatgtgctt ggttttacta ttatgtaatc   9360
acaacttact ttctgcttgt agttgcttaa aattatgtat tttgtcttgg gctgcaattt   9420
gttttatgct tattttatta ttactgcagt agttgacttt gctgtatgga aaaataaagt   9480
gaaattgccc taataaaact tctctttctt aagtatattc gtgta               9525
```

```
gttcccatgg tgcacggtgc tacgccagcc actgtgtccg cagcaacaac atctgccaca     60
agtgttccct tcgctgcaac agccacagcc aaccaggttt gctaatttac agctttgttt    120
cttaaaaaac aactctaata gggctcaatc caacagccct tacgcacgtg gatttcccat    180
tgaggtcagt gggaatcgtg tgtacgtgag ggctgtagag ggtgctttaa taagcatggg    240
gtttcaaaga tacctcttgt tggcctacac attctctcta tgatgagcag cagaatgctt    300
ttatgccatt tataagtgct ccaaagtcgt cgcagctcca tttctgaagc tactaaaatg    360
atatttacac aagcaattct caattggttt caaccaatcg tgcaggtatt ttgaccaatc    420
```

2915

```
aaaaatagag gccatttttaa ggttttttatt taaaatatttt ggtatatatca gtttcttagt    480
tcttgcctaa atgattaata gaaagtaaaa tacttaaatg tattacgtat gccacaaatg    540
accactcttg taaataagtt tgttataaat tcattataat ctgaatcatt taatgagcag    600
attcaaaata aattgtttgc atgtagcatt tctaagcttt tattctcaat gctttcagtg    660
aaagaaaaat cctaagcgct cttattttta taattaccct gcataaatgt tggagattta    720
tgaaggaaaa gaaaagaaat taagtatggc aaattgacag tcattctgta ttccatgcaa    780
atttattgca ggatactttt aagtgaaagg gatttgtttc ataaatttaa attttatgat    840
atacaataat aactatttaa aaataaatga tgatttaaaa tatttaaaat ttaaaaattg    900
acatttattc acccagcatt ttctgattct acttaaaaat attttctaga aaatactggt    960
tgatttcaag tttcatttat gtagatttgg gcttcaatag agttgatagt gtatgaaaaa   1020
catagagcca agccacattt cagataatcc acagaggaag attaaaggta gccaaatgaa   1080
tctcaaaaga atgagtgtca gatgaaaatg aacatgttcc cccttgggaa gggaagacca   1140
attaagacat agatttgttg ttattactgt gaggagtagc caccccttgtt ctataataca   1200
tcacgtactg ttgatgaaga acattcagct attagtacag ccattaaaaa cttttcaaaat   1260
cagaacacaa aaatgaattt aacgtttcag tcaagcttta aacatttctt ggcaaagaat   1320
cattaatttt tcagaagctt gtcaaaatag ccctgggttt acatgaacac gtcagactca   1380
tttacaagaa tgctagattg tgcatatgtg gcatgttaat aagtaacctt tggtagaact   1440
attatgatgg attcaataca atccatctat ggtgcaaatc aatgataaag aactctcatg   1500
cgtctaccat gtatgactgt agaattgctg gtgtaagcag aactatagca gagcaaattt   1560
caacatgccc ttggccacct gggttgtagg ggacacttta ctttttgcat tgtgctgtga   1620
ccatttcatg cataatcttg gatcttcata ctatttgaca accaaaagaa agaaaaggga   1680
atggatatat atatacacac atatattata tctacatata catacatatg tatatgccta   1740
cagtacatta gcaatgctgg aaatagctga tgccacaaaa tgcagcctgc atgcatgcag   1800
aagtttatag ctggcccttc atctgcatcg attggtgttg aaggtccttg gtatgtttcg   1860
acagccccat ccttgatgct tctacactgt tgggtgcaac atcctgtcct gcagcagcag   1920
gaaaaatggt atgagaagct tcattatgct tggagcacat tttcgtgcca tttgccaatg   1980
ctgtaaaatt gtgtaaaaat gtcagctgag aactggaaat aaaacaggga catattaata   2040
tacacgccag actgtggatt gtagtatgtt gaattagcct aagatgtcta aattgaaaga   2100
acagcaacaa aatgcctttg tgtatctgat ttcattattc tcccaacaac attgctgaaa   2160
tgggattagt atcatttttat agaagagact taagcataga gtaatgagtt gctttgctca   2220
gggtcacaca cacagtaaat ggatctctgg ggatagcacc cgtgtcatca gtcctgtgac   2280
agtctcaatc cattgtgctg cctctctcag gtaagcaggc attaatttca ggttgaagaa   2340
tcaagctaca aatccgaagt tcttagcttt gggaactatt gaaataagcc ccctctatat   2400
tggtttctta ttgtattttc tcccaagttc tctaattctc tggcccattt aaaatacaat   2460
aaaaggtgtc atcaggattc agaaatatgt tctgaagtaa acttaggctc ttacctagtt   2520
cttttgaatt actgctttat aattcttacc tggtattttt aatttggaaa aaaaagtta   2580
gacaccctaa tttgaacgaa aatgttagaa atttggttgc acaaaaatag gcaagacatt   2640
tccttatctg atttctggat gattactaag taactgaaac cacggggtg cgtgtgtgtg   2700
tgtgtgtgta ggccaacaaa aagggcttct ttcaattact gctctgcatg aatttttgat   2760
agttttactt atttcctaaa agctggtaac atttatagaa tagtatttaa catgaagatt   2820
ttaaagttag ttgctacttt ggcatttaag tttacattaa cttactgtta tgttgaccag   2880
ataaggacta tcacctcaca gctgaatttc acttttcttt aaaaatttaa tattaaaatg   2940
ttttcatctc ttaattgttg gcttgcttgc atggatcatt cattaaataa ttttttattt   3000
gctagatacc cataatatct gccgaacatc tgactagcca caagtatgtt acccagatgt   3060
agaattttca tcactaaaca gtaagttcat tatgtaatat atagttgcat atttgtggtg   3120
gttttttttta agatagcaat tgtatagtgc acttaaaatt ttgcgaaatc tctgagaaaa   3180
tatatacaga tcacattttt atcttaaatg ggtgtgagga atttttatcag acatctttat   3240
aacaaatatg gtaatatcac ttaaatatac aaagtactaa gagaaaataa atttttttaaa   3300
tttctgatta gagataaaca cagcataaag aaaatgtatg accaaaaagt aattagaagg   3360
tgtagatcaa gggttggcaa actttcttat agggtcagac agtaagtatt tttgctgtgt   3420
gggccgtatc gtttctgttg cagctactct cctctgccat tgtatcatga aagcagccag   3480
agaccacatg taaacaaatg ggtgtagctg tgttccagta aaactttatt tacaaaaaca   3540
ggcagtacat cacatctggc ccacaggcag tagtttggct gacctctggt gtagattatc   3600
acttttttttt tttttttttca ttctttggct aaaccttaaa tgggaccatg tacttacttc   3660
atcccatgca ccaccataca caggggcatt agaatgtaat gagtttggct aagcgtggtg   3720
gctcacactt gtaatccaag cactttggga ggccaaggtg ggtggattgc ttgagcccag   3780
gaatttaaga ctagcctagg caacatggtc aaaccctgtc ctacaaaaaa tacaaaaaaa   3840
tcagctgggt atggtagcac actctgtagt tccagctact agggaggcta aagtgggagg   3900
atcacttgag cccaggaggt tgaggctgca atgagctgtg attgcgccac tgcactccag   3960
cctgggcaac agagcaagac ctgtctcaaa aaaaaaaaaa tgtagtgagt ctgactttaa   4020
ataaatatat acacataatc aaatatatgt gtacacacaa atctacatat tcaaatgaat   4080
```

2916

```
cttagttact ttaaagtagt tacctcagag gatcatataa ttctgaaaat gttgccattg   4140
ccacatttta aaaatggttt gaaagtcttg tattttgtct ttaaaaacac tgtggtggtg   4200
gggtcggggg agggggggagg gatagcattg ggagatatac ctaatgctag atgacacgtt   4260
agtgggtgca gcgcaccagc atggcacatg tatacatatg taactaacct gcacaatgtg   4320
cacatgtacc ctaaaactta aagtataaaa aaaaaaacaa aaaaaaaaac cactgtctta   4380
aatacttaaa aaggtgtcca tttttcatcc ataggaatat gttttgtcca gtatgcatgc   4440
attcaagtta taacatgtgc tcagatgctt gttatttatt tttatattta gaaagagaca   4500
ttacatttaa aactgaaatt ggttaagatg ggtgaccatt ctttgttgct tcctttattt   4560
atttattaac atatttacaa atgagttttt ggtgctactt tgtgttagtt accatggcaa   4620
ggagataaag gtaaatagat aataagataa agatgtaagg aatttcagga taatatagta   4680
aaataagaga ggtttgaaga aatttctctt agagcaaaga tgaaggagca gctgttccca   4740
acaggatccg taaacaaatg aatgtggaca atgaaggtgt tgttctaaag agaatggagg   4800
tgtaaaggcc ttgtaaaaga aggacagtgt gccaagtcag gaaacgatga tggctgagaa   4860
ccaactcaga aacccttgtg atgttaatct gtagcaaagc tggacaaagt caaagcccat   4920
gcaggagaac aggcagaatt caatagccat ttaagaaaga aatgagaggc tcaactggag   4980
aagtactgcc aaagatatgc tgcaatcgtg aattattaaa attgattttt gtctatttca   5040
taagttttct caaagcagtt ctgataaaaa ggttcagatt ctgaacaata gccacatttg   5100
tagaagaaga ggcattactt tgcagtgttg taggtttaga agaagaggtt tttttgacat   5160
gccagaaaaa tctgtttcaa gctcttatag tcaattaggt gtgtttggta tgtatatatt   5220
taactaaatt ctgtttctta gcaataatcc aggttgaaaa aaatttctaa aaataattag   5280
caaaccagta gtttgtctg tattgaagct aagcttttaa tgttctgttc atttaacaaa    5340
tgattgctca tcttcatgag gagttgcaac atttaaactg gttttgagt cactagatta    5400
tgatttcttt cattttcaag gttgtattgt gaagcatact tttaatatat gtaaatattc   5460
gctgctgaga acaaatttca tgtaaaaact ggaactgtta atccacaagt acattgtaat   5520
gtctattaca gcttaattca tgagtaataa ttctgtaatt caaaaagaat gatttttatt   5580
ttcttagttt taggtgaaaa aagttcaaca aactgaatta cccaaagcca tcacttaaag   5640
tatcattctt tttttttcaa acatgcatta tgctaatcaa gcacccaaaa agaataaatc   5700
ttgtttaata gaacatatta catgaatttt aattttgtag accagacctt tactcttgaa   5760
accttattaa acttcagaaa agaagtttaa attttgccct acaacaattg tgctaaaaaa   5820
gagctctgta tattaggccc cctgattctg caaatgtatt ttatactttt agtttaggat   5880
tggtaaattt tggagcacat tctacagttt tattaaattg tacgtgttat ttcattcgtg   5940
tagagatgat agacaaattt tgatctgtct actcttgtaa aatggttttt gtttttatat   6000
gaagatataa tgtaaatata ctggttaatc aaaaagaaaa ttttcatatt aaatgtatat   6060
tagaaactgc ttttagatat tacctgttct aacaaagctt atctcttttt cccttgtaga   6120
tcatgctaaa gaggaaagga cagtgtgctt ggttagagta aaggacgagg tcattagcca   6180
tattgtatat atcgtcaagc aacacacaca aaagttcctc agccacaaga catccacata   6240
ttgcatgtta accagaagaa aagacaacat tttccggaaa tccactgcac actgttgcct   6300
atacactttg tacatttaat tgatatttgt gctgaggtga tattcctgtc taaaagaaca   6360
acattgtctt tctttttctag cacagagtta tgcattcaaa gatgcatacc tagttagttt   6420
cctatatatt catgccatct tgaaaagaca gactatggtg taaccatgat tctattatgt   6480
attggtacgt ctgtagacca agatataatt ttttaaaaat aagtttattt ctttcaaggt   6540
ttacaaataa caaaggtgca ccttgtattt aaaattgcca ttatagatga gagcgtgcat   6600
gcacagtcat tttttgtttaa gagtaatatt tttaatgtaa tagattgtaa gacgtggtga   6660
gggagggatc tgacagagat gaatgtgcca agcaaaacca caactgtgta tattttaaag   6720
cacatcatgg cttttaagtac catgttgtta aggattctca tgaagtgcca tagactgtac   6780
atcaaattag agtattattt cttcagtgtt attgttttca gagccacatt ttgttgcata   6840
tttgctagta ctaatcagtc aaagggcacc attcttttt tttttttttg aaaccaaagc    6900
tgtctcagaa atggccaatt taactttaca gtaacaatag acagcacaac acaaactctc   6960
tcaatacaga taaactcaca catactggag atatatatat aatagatata tataaaatta   7020
ttttaatgca ttgtagtgta atatttatgc atactatact gtataacatg ttattcaaaa   7080
gggattgcca tttctgagac acagtaacaa aaaaatgagg aaattatttt gcttctattt   7140
atagcctctg tcaaaagtca aaagactata aatgctttgc aaaaatggtt tcacgtttgc   7200
ttaaatgctt catcacagtc acattcaaaa tagtgactct aaacaaagaa gaaagcagca   7260
ctgtcatcag atgcatgata aaccaaaata tgaaaatggg aaatgtttaa ttaacctagt   7320
aattgggtgg gttaagtaca tgggtgaatt ttatatgtga ttttttgtttt gttttgtttt   7380
gttcagatta actgcttata gccttagaaa gccttttaca aaattaaaaa aaaaatagat   7440
gtgcattcag tttttaagaa tggaatcatc caaaggaatt cctttttttg aggtttggat   7500
gttgcagcta gtaaaggata tttttgctct gttcagcagt tctaaaaatt gctgaagtag   7560
gggccaggtc actggtagtt atagtatgga atgggagaag tgaaagttca gttatagaac   7620
tttccatact tccaagttta ctgcaagttt ttatgcttga gagagatgct ttctaatata   7680
agactgatgt gttgatttta ctgattgtac tgtacatcta ttaaagcctt agattattac   7740
```

```
attacgggtt ggaacccata ccaatgtaat ttcaatcgtg ttaagaaagt aatggtgact    7800
tcacatgtta ttgtagttag ttacattata gaatattact tattttttctt gttaaaatgt   7860
agttttttcat ttcctacatt tattagattt tcattttcta ttaacaattg aataccattt  7920
cagtttatag acttgtttta ttagattttta ccaatgaatt ttttcaaaata caaaaaaaag  7980
tagtttttcc ttcataacat actcagtttt gaattacatg tagtgtcaca tgaatattcg    8040
tattgttaac taaatgattt atatttttact gatttaatat tacagtgtaa gaatgtcagt   8100
cattgttagt tcttgtctag ttttcattaa aagaacaaag atcttttata tggatatctt    8160
ataaatatat aatcattgct aagtaagaag ttaagttgtt gctatcgcaa caatcctggc    8220
agacaattga gtaatatttt gatgatttat tttgtttgta attagttatt ataagaagat    8280
ctagatccta gatattagaa taaaatttat tttctactgt atccatttca aatgttaaaa    8340
tattgtttaa tatttttgaa atccctgagt atcaggcctt gttataaata agctgcataa    8400
tcaataaata gaacaaggga ctttttgttg ataatccaaa tactcaaagt ttacgtaatg    8460
aaaattatag cgtgtgtgca aactcttgag ggttgattat gctgcaattt agcatgttgg    8520
aacgtctagg gagaaggttg actttttgca cttctgtata tagtcaaaag agagaaacct    8580
gtataatagt aagatcttat tttgaataaa aacgtctata attacaagga gttttgttaa    8640
ggctaataca atgacagact gagcaaaatt gcttgcaaaa gtggcacaga gttagcactc    8700
catacccctt caaacatgtt gctttgcttt cttgtggaca gcttgtagtt tgccaggatt    8760
ttttcagctg gaaagatacg ccatcctttc aaaccctcat gactgacaaa aactccatgg    8820
ggccaaatct gcctgaagat cattaccaaa aatagcaggt acttctacca ttaaggtgaa    8880
atcatggatc agatattcct tacattttc aaaactactg catgtttaaa acttcaacaa     8940
aaaaagagag aaagaactat actaagaaca tatattattc agatcagttt ctgccaattt    9000
cagtggttta ttgttcacaa aaaaatcttc aaaacaagta ttgactttca caaaatttaa    9060
atcataaaca ggcaaaccaa acagcacact gtagctatag ttgttatgtg attgttttt     9120
aattgctgta ggatcctgtt ctttcagcag gtgaaaaata aaacgcagtt caaatttcat    9180
ggttttaatt ttcaactcag aagcactcaa aaatgcaaaa tgtgataatg ggcacttgtt    9240
taaaagaatt agtgtatcca gccttcactc cagctggtta aaaatgttgc acttatcagc    9300
aaccctacca ctttcatctg ctgaaaggac aaatgtgctt ggttttacta ttatgtaatc    9360
acaacttact ttctgcttgt agttgcttaa aattatgtat tttgtcttgg gctgcaattt    9420
gttttatgct tatttttatta ttactgcagt agttgacttt gctgtatgga aaaataaagt    9480
gaaattgccc taataaaact tctctttctt aagtatattc gtgta                    9525
```

```
<400> 6012
attatttctt ccatgttatt gttttcagac cacattttgt tgcatatttg ctagtactaa     60
tcagtcaaag ggcaccattc ttttttttttt tttttgaaac caaagctgtc tcagaaatgg    120
ccaatttaac tttacagtaa caatagacag cacaacacaa actctctcaa tacagataaa    180
ctcattctta ctggagatat atatataata gatatatata aaattatttt aatgcattgt    240
agtgtaatat ttatgcatac tatactgtat aacatgttat tcaaaaggga ttgccatttc    300
tgagacacag taacaaaaaa atgaggaaat tattttgctt ctatttatag cctctgtcaa    360
aagtcaaaag actataaatg ctttgcaaaa atggtttcac gtttgcttaa atgcttcatc    420
acagtcacat tcaaaatagt gactctaaac aaagaagaaa gcagcactgt catcagatgc    480
atgataaacc aaaatatgaa aatgggaaat gtttaattaa cctagtaatt gggtgggtta    540
agtacatggg tgaatttttat atgtgatttt tgttttgttt tgtttttgttc agattaactg   600
cttatagcct tagaaagcct tttacaaaat taaaaaaaaa atagatgtgc attcagtttt    660
taagaatgga atcatccaaa ggaattcctt tttttgaggt ttggatgttg cagctagtaa    720
aggatatttt tgctctgttc agcagttcta aaaattgctg aagtaggggc caggtcactg    780
gtagttatag tatggaatgg gagaagtgaa agttcagtta tagaactttc catacttcca    840
agtttactgc aagtttttat gcttgagaga gatgcttct aatataagac tgatgtgttg     900
attttactga ttgtactgta catctattaa agccttagat tattacatta cgggttggaa    960
cccataccaa tgtaatttca atcgtgttaa gaaagtaatg gtgacttcac atgttattgt   1020
agttagttac attatagaat attacttattt ttcttgttaa atgtagtt tttcatttcc     1080
tacatttatt agatttcat ttttctatta acaattgaat accatttcag tttatagact     1140
tgttttatta gatttttacca atgaattttt caaaatacaa aaaaagtag ttttttccttc   1200
ataacatact cagttttgaa ttacatgtag tgtcacatga atattcgtat tgttaactaa    1260
atgatttata ttttactgat ttaatattac agtgtaagaa tgtcagtcat tgttagttct    1320
tgtctagttt tcattaaaag aacaaagatc ttttatatgg atatcttata aatatataat    1380
```

2918

```
cattgctaag taagaagtta agttgttgct atcgcaacaa tcctggcaga caattgagta      1440
atattttgat gatttatttt gtttgtaatt agttattata agaagatcta gatcctagat      1500
attagaataa aatttatttt ctactgtatc catttcaaat gttaaaatat tgtttaatat      1560
ttttgaaatc cctgagtatc aggccttgtt ataaataagc tgcataatca ataaatagaa      1620
caagggactt tttgttgata atccaaatac tcaaagttta cgtaatgaaa attatagcgt      1680
gtgtgcaaac tcttgagggt tgattatgct gcaatttagc atgttggaac gtctagggag      1740
aaggttgact ttttgcactt ctgtatatag tcaaaagaga gaaacctgta tattagtaag      1800
atcttatttt gaataaaacg tctttaatac aaggagtttt ggtaaggcta atacaatgac      1860
agactgagca aaatgccttg caaaagtggg cacagagtta gcactccata cccccttccaa     1920
acatggtgct ttgctttctt gtggcagctt ggagttggcc aggatttttt cagctgaaaa      1980
gatacgccat cctttcaaac cctcatgact gacaaaaact ccatggggcc aaatctgcct      2040
gaagatcatt accaaaaata gcaggtactt ctaccattaa ggtgaaatca tggatcagat      2100
attccttaca tttttcaaaa ctactgcatg tttaaaactt caacaaaaaa agagagaaag      2160
aactatacta agaacatata ttattcagat cagtttctgc caatttcagt ggtttattgt      2220
tcacaaaaaa atcttcaaaa caagtattga ctttcacaaa atttaaatca taaacaggca      2280
aaccaaacag cacactgtag ctatagttgt tatgtgattg ttttttaatt gctgtaggat      2340
cctgttcttt cagcaggtga aaaataaaac gcagctcaaa tttcatggtt ttaattttca      2400
actcagaagc actcaaaaat gcaaaatgtg ataatgggca cttgtttaaa agaattaggg      2460
tatccagcct tcactccagc tggttaaaaa tgttgcactt atcagcaacc ctaccacttt      2520
catctgctga aaggacaaat gtgcttggtt ttactattat gtaatcacaa cttactttct      2580
gcttgtagtt gcttaaactt atgtattttg tcttgggctg caatttgttt tatgcttatt      2640
ttattattac tgcagtagtt gactttgctg tatggaaaaa taaagtgaaa ttgccctaat      2700
aaaacttctc tttcttaagt atattcgtgt a                                     2731


<210> 6013
<211> 12390
<212> DNA
<213> Homo sapiens

<400> 6013
cacatttctc agaagcacac cattctgctc tgcaaatatc tttgtaggag aaattggaaa        60
ttgacaaata cattcactta aattttgctt tgtgctgaaa attgaggaaa aatttaaatt       120
ggccatttgc acattattag tagtaaatca acccatgtaa agatggaaac tatggtcatt       180
tcaaaagtga ttttcatttt tggtaagtgg gtcctacagc attatgtcct catatttgtg       240
agttattgca ccctggctag tattttcatt gctgccttat gtttatttgc tgcaaatccc       300
tctcaaaact gtgtgcattg gttataatgc taatgaggaa gataattcaa actaaaattc       360
aaatcataat agctttagga ttttagagag atagtataag gttaactcat tttcagcatg       420
tgcagactta attatgcatg ggatgaaata cagtaggcaa gtctcagcct aataataaat       480
aattgaaaaa tataacctgt acaatattta aactggcttt aatattactt aattatcaca       540
ttattctttt tcattcatca tttcttttcc aattctctca ccctaccatt aagacagtaa       600
tgattttata agatgtagat ccggtattaa gttttgcttg ctctactgtc tcaaattatt       660
ataacttctt tgttattact ggcttgtttc tgtttgtctt tcacaagtct ttgactcagt       720
agtagtagca aatgacagag atcttcaagt gtcttaatgc ttgtcaatat aatattattc       780
cacttgatag gatgtgtccc cagatacatt acagagttta atcgttgatc actctgccca       840
cagtctaatt gtgataacaa actaatcgca gctgttacag agatgccagt taagtaatcc       900
gtgtttcagc tgagtttctc aatggcagct ttattttata gggccatctc tgacgagatt       960
catttggcag atattttct aacaaatgtt cgtcccagat gctgctagta tttaaacagg      1020
atatgctaag atttagatag aaatataaaa tccttggata ttttaaaacc tagaattcta      1080
aaataatccc atagaaagaa cagtagttct gcatatggga aagtgccttg tacttggtaa      1140
aataagttaa attttcaata tttacatgtc aaagagaaca aggactatct atatatgcaa      1200
catttatttt tgcttatcat ggttgaacaa ttgtcagcat cagtgctaac accccatatg      1260
tgatgtatgt attttcactc tctcccactc aaggttttta ttgaactcta attagcagtt      1320
tcttgcgtgt gaaattttgt agaacatttg ctactcccag aagtcttgaa ggtctaaacc      1380
agcaatgaaa accactctga tttcctagat actgtgaagt aaaccaattt gatacttata      1440
agaaattata ttccccctta atgctttttcc tacattttaa tttcaaacta aggaaaggca      1500
caaatttcac tttttttatgt ataatttatt gcttggcatc cctccaaata caaatcctgt      1560
atgaataatt acaacccctt tcatgtttat atggttgctg ctacaatgaa caggaaaata      1620
aagcaaaagg aatgaaaatg aatgtttggg tttcattata ttgttaagtc agttttgtac      1680
attgaattat ttagtatttta ataataaata tctttagtaa gttaatatgt gcctgatata      1740
aagaaaatgt taaggcattc ataagttaaa gtcagaaata gcaaacgac cagatggtta       1800
```

```
gtaatcagat taaaacaaaa cagattacaa tattattttt aaaagaatta agtggattta  1860
aattacttcc aaaatacttt tgtttatagg caacaattaa gagaaacaaa gtgtaccagc  1920
acacagttaa actggctttt attcttcact tgagactagt tctaattgat cactgtgcta  1980
ttgtatgatt tgattgtgct gacagttaca tgccactgtt cccataataa caatttttct  2040
tctttgttca aatgaatttt ctaattacac gtgtgatggg atgttttaat tcttttccct  2100
tttcaaatcc accttcctgt tgcaatgcat gatgggcagg ctcaatattg tgcatgacac  2160
ccgctacaag tgttggtagg tgccagcttt gtttcttgat tatcttaaac ctatggtgta  2220
cctcacagcc cctcaaaatc cactgctaag tttaacttat atctattggg caagtccatt  2280
tcccttttac taacacttgt caattaaatg ccattttctg tttaattgac atggactcac  2340
ataagtgttt tctttacaca caacagtttc ctttagtcac ctttggtgga ttttgattgg  2400
actatgagtt ctggtgtgta aaaaaaatct atttcataaa agtaatatac tgtatatttt  2460
tataatagta aatgagaaaa aaatactttc attcaaacag ataactgtat atatgaagta  2520
aatacttgta ttttgactta gattttgaat gtctgactat gaacactata taaaattctt  2580
gtttttgact tagcatatta agcctgtttg tgtcaatttt cttgatttga tggtaacaag  2640
cttttttccc cctttttttt ctctttcatc cctcctcccc ttctctcctt ggaatgttgt  2700
cctgctttgc gctgtgattg catgtcactc gctggtgatg atgtcctgtc acatggctta  2760
ttgctgtgat aaataccatg cccaattatc tcttccatgt tgccatggtt tccatattgc  2820
tacactcttc tgtatgttcg cttatatgat tttccctccg aaagttccca tggtgcacgg  2880
tgctacgcca gccactgtgt ccgcagcaac aacatctgcc acaagtgttc ccttcgctgc  2940
aacagccaca gccaaccagg tttgctaatt tacagctttg tttcttaaaa aacaactcta  3000
ataggggctca atccaacagc ccttacgcac gtggatttcc cattgaggtc agtgggaatc  3060
gtgtgtacgt gagggctgta gagggtgctt taataagcat ggggtttcaa agatacctct  3120
tgttggccta cacattctct ctatgatgag cagcagaatg ctttttatgcc atttataagt  3180
gctccaaagt cgtcgcagct ccatttctga agctactaaa atgatattta cacaagcaat  3240
tctcaattgg tttcaaccaa tcgtgcaggt attttgacca atcaaaaata gaggccattt  3300
taaggttttt atttaaaata tttggtatat acagtttctt agttcttgcc taaatgatta  3360
atagaaagta aaatacttaa atgtattacg tatgccacaa atgaccactc ttgtaaataa  3420
gtttgttata aattcattat aatctgaatc atttaatgag cagattcaaa ataaattgtt  3480
tgcatgtagc atttctaagc ttttattctc aatgctttca gtgaaagaaa aatcctaagc  3540
gctcttattt ttataattac cctgcataaa tgttggagat ttatgaagga aaagaaaaga  3600
aattaagtat ggcaaattga cagtcattct gtattccatg caaatttatt gcaggatact  3660
tttaagtgaa agggatttgt ttcataaatt taaattttat gatatacaat aataactatt  3720
taaaaataaa tgatgattta aaatatttaa aatttaaaaa ttggacattt attcacccag  3780
cattttctga ttctacttaa aaatattttc tagaaaatac tggttgattt caagtttcat  3840
ttatgtagat ttgggcttca atagagttga tagtgtatga aaaacataga gccaagccac  3900
atttcagata atccacagag gaagattaaa ggtagccaaa tgaatctcaa aagaatgagt  3960
gtcagatgaa aatgaacatg ttccccttg ggaagggaag accaattaag acatagattt  4020
gttgttatta ctgtgaggag tagccaccct tgttctataa tacatcacgt actgttgatg  4080
aagaacattc agctattagt acagccatta aaaactttca aaatcagaac acaaaaatga  4140
atttaacgtt tcagtcaagc tttaaacatt tcttggcaaa gaatcattaa tttttcagaa  4200
gcttgtcaaa atacccctgg tttacatgaa cacgtcagac tcatttacag aaatgctaga  4260
ttgtgcatat gtggcatgtt aataagtaac ctttggtaga actattatga tggattcaat  4320
tcaatccatc tatggtgcaa atcaatgata aagaactctc atgcgtctac catgtatgac  4380
tgtagaattg ctggtgtaag cagaactata gcagagcaaa tttcaacatg cccttggcca  4440
cctgggttgt aggggacact ttactttttg cattgtgctg tgaccatttc atgcataatc  4500
ttggatcttc atactatttg acaaccaaaa gaaagaaaag ggaatggata tatatataca  4560
cacatatatt atatctacat atacatacat atgtatatgc ctacagtaca ttagcaatgc  4620
tggaaatagc tgatgccaca aaatgcagcc tgcatgcatg cagaagttta tagcctggcc  4680
cttcatctgc atcgattggt gttgaaggtc cttggtatgt ttcgacagcc ccatccttga  4740
tgcttctaca ctgttgggtg caacatcctg tcctgcagca gcaggaaaaa tggtatgaga  4800
agcttcatta tgcttggagc acattttcgt gccatttgcc aatgctgtaa aattgtgtaa  4860
aaatgtcagc tgagaactgg aaataaaaca gggacatatt aatatacacg ccagactgtg  4920
gattgtagta tgttgaatta gcctaagatg tctaaattga aagaacagca acaaaatgcc  4980
tttgtgtatc tgatttcatt attctcccaa caacattgct gaaatgggat tagtatcatt  5040
ttatagaaga gacttaagca tagagtaatg agttgctttg ctcagggtca cacagccagt  5100
aaatggatct ctggggctag cacccgtgtc atcagtcctc tgacagtctc aatccattgt  5160
gctgcctctc tcaggttagc aggcattaat ttcaggttga agaatcaagc tacaaatccg  5220
aagttcttaa ctttgggaac tattgaaata agtcaactct atattggttt cttattgtat  5280
tttctctcaa gttctctaat tctcttgccc atttaaaata caataaaagg tgtcatcagg  5340
attcagaaat atgttctgaa gtaaacttag gctcttacct agttctttg aaŧtactgct  5400
ttataattct tacctggtat tttaatttg gaaaaaaaa gttagacacc ctaatttgaa  5460
```

2920

```
cgaaaatgtt agaaatttgg ttgcacaaaa ataggcaaga catttcctta tctgatttct  5520
ggatgattac taagtaactg aaaccacggg ggtgcgtgtg tgtgtgtgtg tgtaggccaa  5580
caaaaagggc ttctttcaat tactgctctg catgaatttt tgatagtttt acttatttcc  5640
taaaagctgg taacatttat agaatagtat ttaacatgaa gattttaaag ttagttgcta  5700
ctttggcatt taagtttaca ttaacttact gttatgttga ccagataagg actatcacct  5760
cacagctgaa tttcactttt ctttaaaaat ttaatattaa aatgttttca tctcttaatt  5820
gttggcttgc ttgcatggat cattcattaa ataatttttt atttgctaga tacccataat  5880
atctgccgaa catctgacta gccacaagta tgttacccag atgtagaatt ttcatcacta  5940
aacagtaagt tcattatgta atatatagtt gcatatttgt ggtggttttt tttaagatag  6000
caattgtata gtgcacttaa aattttgcga aatctctgag aaaatatata cagatcacat  6060
ttttatctta aatgggtgtg aggaattta tcagcatct ttataacaaa tatgttaata  6120
tcacttaaat atacaaagta ctaagagaaa ataaatttt taaatttctg attagagata  6180
aacacagcat aaagaaaatg tatgaccaaa aagtaattag aaggtgtaga tcaagggttg  6240
gcaaactttc ttatagggtc agacagtaag tattttgct gtgtgggccg tatcgtttct  6300
gttgcagcta ctctcctctg ccattgtatc atgaaagcag ccagagacca catgtaaaca  6360
aatgggtgta gctgtgttcc agtaaaactt tatttacaaa aacaggcagt acatcacatc  6420
tggcccacag gcagtagttt ggctgacctc tggtgtagat tatcactttt tttttttttt  6480
ttcattcttt ggctaaacct taaatgggac catgtactta cttcatccca tgcaccacca  6540
tacacagggg cattagaatg taatgagttt ggctaagcgt gggtggctca cacttgtaat  6600
ccaagcactt tgggaggcca aggtgggtgg attgcttgag cccaggaatt taagactagc  6660
ctaggcaaca tggtcaaacc ctgtcctaca aaaaatacaa aaaaatcagc tgggtatggt  6720
agcacactct gtagttccag ctactaggga ggctaaagtg ggaggatcac ttgagcccag  6780
gaggttgagg ctgcaatgag ctgtgattgc gccactgcac tccagcctgg gcaacagagc  6840
aagacctgtc tcaaaaaaaa aaaatgtag tgagtctgac tttaaataaa tatatacaca  6900
taatcaaata tatgtgtaca cacaaatcta catattcaaa tgaatcttag ttactttaaa  6960
gtagttacct cagaggatca tataattctg aaaatgttgc cattgccaca ttttaaaaat  7020
ggtttgaaag tcttgtattt tgtctttaaa aacactgtgg tggtgggggtc ggggggagggg  7080
ggagggatag cattgggaga tatacctaat gctagatgac acgttagtgg gtgcagcgca  7140
ccagcatggc acatgtatac atatgtaact aacctgcaca atgtgcacat gtaccctaaa  7200
acttaaagta taaaaaaaaa aacaaaaaaa aaaaccactg tcttaaatac ttaaaaaggt  7260
gtccattttt catccatagg aatatgtttt gtccagtatg catgcattca agttataaca  7320
tgtgctcaga tgcttgttat ttattttat atttagaaag agacattaca tttaaaactg  7380
aaattggtta agatgggtga ccattctttg ttgcttcctt tatttattta ttaacatatt  7440
tacaaatgag ttttttggtgc tactttgtgt tagttaccat ggcaaggaga taaaggtaaa  7500
tagataataa gataaagatg taaggaattt caggataata tagtaaaata agagaggttt  7560
gaagaaattt ctcttagagc aaagatgaag gagcagctgt tcccaacagg atccgtaaac  7620
aaatgaatgt ggacaatgaa ggtgttgttc taaagagaat ggaggtgtaa aggccttgta  7680
aaagaaggac agtgtgccaa gtcaggaaac gatgatggct gagaaccaac tcagaaaccc  7740
ttgtgatgtt aatctgtagc aaagctggac aaagtcaaag cccatgcagg agaacaggca  7800
gaattcaata gccatttaag aaagaaatga gaggctcaac tggagaagta ctgccaaaga  7860
tatgctgcaa tcgtgaatta ttaaaattga ttttttgtcta tttcataagt tttctcaaag  7920
cagttctgat aaaaaggttc agattctgaa caatagccac atttgtagaa gaagaggcat  7980
tactttgcag tgttgtaggt ttagaagaag aggttttttt gacatgccag aaaaatctgt  8040
ttcaagctct tatagtcaat taggtgtgtt tggtatgtat atatttaact aaattctgtt  8100
tcttagcaat aatccaggtt gaaaaaaatt tctaaaaata attagcaaac cagtagtttt  8160
gtctgtattg aagctaagct tttaatgttc tgttcattta acaaatgatt gctcatcttc  8220
atgaggagtt gcaacattta aactggtttt tgagtcacta gattatgatt tctttcattt  8280
tcaaggttgt attgtgaagc atactttaa tatatgtaaa tattcgctgc tgagaacaaa  8340
tttcatgtaa aaactggaac tgttaatcca caagtacatt gtaatgtcta ttacagctta  8400
attcatgagt aataattctg taattcaaaa agaatgattt ttattttctt agttttaggt  8460
gaaaaagtt caacaaactg aattacccaa agccatcact taaagtatca ttctttttt  8520
ttcaaacatg cattatgcta atcaagcacc caaaaagaat aaatcttgtt taatagaaca  8580
tattacatga attttaattt tgtagaccag acctttactc ttgaaacctt attaaacttc  8640
agaaaagaag tttaaatttt gccctacaac aattgtgcta aaaaagagct ctgtatatta  8700
ggcccctga ttctgcaaat gtattttata cttttagttt aggattggta aattttggga  8760
cacattctac agttttatta aattgtacgt gttatttcat tcgtgtagag atgatagaca  8820
aattttgatc tgtctactct tgtaaaatgg ttttttgtttt tatatgaaga tataatgtaa  8880
atatactggt taatcaaaaa gaaaattttc atattaaatg tatattagaa actgctttta  8940
gatattacct gttctaacaa agcttatctc ttttccctt gtagatcatg ctaaagagga  9000
aaggacagtg tgcttggtta gagtaaagga cgaggtcatt agccatattg tatatatcgt  9060
caagcaacac acacaaaagt tcctcagcca caagacatcc acatattgca tgttaaccag  9120
```

2921

```
aagaaaagac aacatttttcc ggaaatccac tgcacactgt tgcctataca ctttgtacat   9180
ttaattgata tttgtgctga ggtgatattc ctgtctaaaa gaacaacatt gtctttcttt   9240
tctagcacag agttatgcat tcaaagatgc atacctagtt agtttcctat atattcatgc   9300
catcttgaaa agacagacta tggtgtaacc atgattctat tatgtattgg tacgtctgta   9360
gaccaagata taatttttta aaaataagtt tatttctttc aaggtttaca aataacaaag   9420
gtgcaccttg tatttaaaat tgccattata gatgagagcg tgcatgcaca gtcatttttg   9480
tttaagagta atatttttaa tgtaatagat tgtaagacgt ggtgagggag ggatctgaca   9540
gagatgaatg tgccaagcaa aaccacaact gtgtatattt taaagcacat catggcttta   9600
agtaccatgt tgttaaggat tctcatgaag tgccatagac tgtacatcaa attagagtat   9660
tatttcttca gtgttattgt tttcagagcc acattttgtt gcatatttgc tagtactaat   9720
cagtcaaagg gcaccattct ttttttttt ttttgaaacc aaagctgtct cagaaatggc   9780
caatttaact ttacagtaac aatagacagc acaacacaaa ctctctcaat acagataaac   9840
tcacacatac tggagatata tatataatag atatatataa aattattttta atgcattgta   9900
gtgtaatatt tatgcatact atactgtata acatgttatt caaaagggat tgccatttct   9960
gagacacagt aacaaaaaaa tgaggaaatt attttgcttc tatttatagc ctctgtcaaa   10020
agtcaaaaga ctataaatgc tttgcaaaaa tggtttcacg tttgcttaaa tgcttcatca   10080
cagtcacatt caaaatagtg actctaaaca aagaagaaag cagcactgtc atcagatgca   10140
tgataaacca aaatatgaaa atgggaaatg tttaattaac ctagtaattg ggtgggttaa   10200
gtacatgggt gaattttata tgtgattttt gttttgtttt gttttgttca gattaactgc   10260
ttatagcctt agaaagcctt ttacaaaatt aaaaaaaaaa tagatgtgca ttcagttttt   10320
aagaatggaa tcatccaaag gaattccttt ttttgaggtt tggatgttgc agctagtaaa   10380
ggatatttt gctctgttca gcagttctaa aaattgctga agtaggggcc aggtcactgg   10440
tagttatagt atggaatggg agaagtgaaa gttcagttat agaactttcc atacttccaa   10500
gtttactgca agtttttatg cttgagagag atgctttcta atataagact gatgtgttga   10560
ttttactgat tgtactgtac atctattaaa gccttagatt attacattac gggttggaac   10620
ccataccaat gtaatttcaa tcgtgttaag aaagtaatgg tgacttcaca tgttattgta   10680
gttagttaca ttatagaata ttacttattt ttcttgttaa aatgtagttt ttcatttcct   10740
acatttatta gattttcatt ttctattaac aattgaatac catttcagtt tatagacttg   10800
ttttattaga ttttaccaat gaattttca aaatacaaaa aaaagtagtt tttccttcat   10860
aacatactca gttttgaatt acatgtagtg tcacatgaat attcgtattg ttaactaaat   10920
gatttatatt ttactgattt aatattacag tgtaagaatg tcagtcattg ttagttcttg   10980
tctagttttc attaaaagaa caaagatctt ttatatggat atcttataaa tatataatca   11040
ttgctaagta agaagttaag ttgttgctat cgcaacaatc ctggcagaca attgagtaat   11100
attttgatga tttattttgt ttgtaattag ttattataag aagatctaga tcctagatat   11160
tagaataaaa tttatttct actgtatcca tttcaaatgt taaaatattg tttaatattt   11220
ttgaaatccc tgagtatcag gccttgttat aaataagctg cataatcaat aaatagaaca   11280
agggactttt tgttgataat ccaaatactc aaagtttacg taatgaaaat tatagcgtgt   11340
gtgcaaactc ttgagggttg attatgctgc aatttagcat gttggaacgt ctagggagaa   11400
ggttgacttt ttgcacttct gtatatagtc aaaagagaga aacctgtata atagtaagat   11460
cttatttga ataaaaacgt ctataattac aaggagtttt gttaaggcta atacaatgac   11520
agactgagca aaattgcttg caaaagtggc acagagttag cactccatac cccttcaaac   11580
atgttgcttt gctttcttgt ggacagcttg tagtttgcca ggatttttc agctggaaag   11640
atacgccatc ctttcaaacc ctcatgactg acaaaaactc catgggcca aatctgcctg   11700
aagatcatta ccaaaaatag caggtacttc taccattaag gtgaaatcat ggatcagata   11760
ttccttacat ttttcaaaac tactgcatgt ttaaaacttc aacaaaaaaa gagagaaaga   11820
actatactaa gaacatatat tattcagatc agtttctgcc aatttcagtg gtttattgtt   11880
cacaaaaaaa tcttcaaaac aagtattgac tttcacaaaa tttaaatcat aaacaggcaa   11940
accaaacagc acactgtagc tatagttgtt atgtgattgt tttttaattg ctgtaggatc   12000
ctgttctttc agcaggtgaa aaataaaacg cagttcaaat ttcatggttt taattttcaa   12060
ctcagaagca ctcaaaaatg caaaatgtga taatgggcac ttgtttaaaa gaattagtgt   12120
atccagcctt cactccagct ggttaaaaat gttgcactta tcagcaaccc taccactttc   12180
atctgctgaa aggacaaatg tgcttggttt tactattatg taatcacaac ttactttctg   12240
cttgtagttg cttaaaatta tgtattttgt cttgggctgc aatttgtttt atgcttattt   12300
tattattact gcagtagttg actttgctgt atggaaaaat aaagtgaaat tgccctaata   12360
aaacttctct ttcttaagta tattcgtgta                                     12390


<210> 6014
<211> 392
<212> DNA
<213> Homo sapiens
```

<400> 6014

```
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt    60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga   120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa   180
tgggactctg ttagaagtca ttcgtttttc atttggagaa caaaatcgtt tgctagagct   240
attacttcat cacatacccт tggtactcat ggaatttaaa ctttgaaatg atactaaagg   300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc   360
tttcatacag gaagtagtca ctaaagcact gg                                 392
```

<210> 6015
<211> 2533
<212> DNA
<213> Homo sapiens

<400> 6015

```
cacatttctc agaagcacac cattctgctc tgcaaatatc tttgtaggag aaattggaaa    60
ttgacaaata cattcactta aattttgctt tgtgctgaaa attgaggaaa aatttaaatt   120
ggccatttgc acattattag tagtaaatca acccatgtaa agatggaaac tatggtcatt   180
tcaaaagtga ttttcatttt tggtaagtgg gtcctacagc attatgtcct catatttgtg   240
agttattgca ccctggctag tattttcatt gctgccttat gtttatttgc tgcaaatccc   300
tctcaaaact gtgtgcattg gttataatgc taatgaggaa gataattcaa actaaaattc   360
aaatcataat agctttagga ttttagagag atagtataag gttaactcat tttcagcatg   420
tgcagactta attatgcatg ggatgaaata cagtaggcaa gtctcagcct aataataaat   480
aattgaaaaa tataacctgt acaatattta aactggcttt aatattactt aattatcaca   540
ttattctttt tcattcatca tttcttttcc aattctctca ccctaccatt aagacagtaa   600
tgattttata agatgtagat ccggtattaa gttttgcttg ctctactgtc tcaaattatt   660
ataacttctt tgttattact ggcttgtttc tgtttgtctt tcacaagtct ttgactcagt   720
agtagtagca aatgacagag atcttcaagt gtcttaatgc ttgtcaatat aatattattc   780
cacttgatag gatgtgtccc cagatacatt acagagttta atcgttgatc actctgccca   840
cagtctaatt gtgataacaa actaatcgca gctgttacag agatgccagt taagtaatcc   900
gtgtttcagc tgagtttctc aatggcagct ttattttata gggccatctc tgacgagatt   960
catttggcag atattttтct aacaaatgtt cgtcccagat gctgctagta tttaaacagg  1020
atatgctaag atttagatag aaatataaaa tccttggata ttttaaaacc tagaattcta  1080
aaataatccc atagaaagaa cagtagttct gcatatggga aagtgccttg tacttggtaa  1140
aataagttaa attttcaata tttacatgtc aaagagaaca aggactatct atatatgcaa  1200
catttatttt tgcttatcat ggttgaacaa ttgtcagcat cagtgctaac accccatatg  1260
tgatgtatgt attttcactc tctcccactc aaggtttтta ttgaactcta attagcagtt  1320
tcttgcgtgt gaaattttgt agaacatttg ctactcccag aagtcttgaa ggtctaaacc  1380
agcaatgaaa accactctga tttcctagat actgtgaagt aaaccaattt gatacttata  1440
agaaattata ttccccctta atgcttttcc tacattttaa tttcaaacta aggaaaggca  1500
caaatttcac tttttatgt ataatttatt gcttggcatc cctccaaata caaatcctgt  1560
atgaataatt acaaccccтt tcatgtttat atggttgctg ctacaatgaa caggaaaata  1620
aagcaaaagg aatgaaaatg aatgtttggg tttcattata ttgttaagtc agttttgtac  1680
attgaattat ttagtattta ataataaata tctttagtaa gttaatatgt gcctgatata  1740
aagaaaatgt taaggcattc ataagttaaa gtcagaaata gcaaacgac cagatggtta   1800
gtaatcagat taaaacaaaa caaattacaa tattatтttt aaaagaatta agtggattta  1860
aattacttcc aaaatacttt tgtttatagg caacaattaa gagaaacaaa gtgtaccagc  1920
acacagttaa actggctttt attcttcact tgagactagt tctaattgat cactgtgcta  1980
ttgtatgatt tgattgtgct gacagttaca tgccactgtt cccataataa caatttttct  2040
tctttgttca aatgaatttt ctaattacac gtgtgatggg atgttttaat tcttttccct  2100
tttcaaatcc accttcctgt tgcaatgcat gatgggcagg ctcaatattg tgcatgacac  2160
ccgctacaag tgttggtagg tgccagcttt gtttcttgat tatcttaaac ctatggtgta  2220
cctcacagcc cctcaaaatc cactgctaag tttaacttat atctattggg caagtccatt  2280
tcccttttac taacacttgt caattaaatg ccattttctg tttaattgac atggactcac  2340
ataagtgttt tctttacaca caacagtttc ctttagtcac ctttggtgga ttttgattgg  2400
actatgagtt ctggtgtgta aaaaaaatct atttcataaa agtaatatac tgtatatttt  2460
tataatagta aatgagaaaa aaatactttc attcaaacag ataactgtat atatgaagta  2520
aatacttgta ttt                                                     2533
```

<210> 6016
<211> 392
<212> DNA
<213> Homo sapiens

<400> 6016
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt   60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga   120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa   180
tgggactctg ttagaagtca ttcgtttttc atttggagaa caaaatcgtt tgctagagct   240
attacttcat cacatacccct tggtactcat ggaatttaaa ctttgaaatg atactaaagg   300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc   360
tttcatacag gaagtagtca ctaaagcact gg   392

<210> 6017
<211> 2529
<212> DNA
<213> Homo sapiens

<400> 6017
cacatttctc agaagcacac cattctgctc tgcaaatatc tttgtaggag aaattggaaa   60
ttgacaaata cattcactta aattttgctt tgtgctgaaa attgaggaaa aatttaaatt   120
ggccatttgc acattattag tagtaaatca acccatgtaa agatggaaac tatggtcatt   180
tcaaaagtga ttttcatttt tggtaagtgg gtcctacagc attatgtcct catatttgtg   240
agttattgca ccctggctag tatttcatt gctgccttat gtttatttgc tgcaaatccc   300
tctcaaaact gtgtgcattg gttataatgc taatgaggaa gataattcaa actaaaattc   360
aaatcataat agctttagga ttttagagag atagtataag gttaactcat tttcagcatg   420
tgcagactta attatgcatg ggatgaaata cagtaggcaa gtctcagcct aataataaat   480
aattgaaaaa tataacctgt acaatattta aactggcttt aatattactt aattatcaca   540
ttattctttt tcattcatca tttcttttcc aattctctca ccctaccatt aagacagtaa   600
tgatttata agatgtagat ccggtattaa gttttgcttg ctctactgtc tcaaattatt   660
ataacttctt tgttattact ggcttgtttc tgtttgtctt tcacaagtct ttgactcagt   720
agtagtagca aatgacagag atcttcaagt gtcttaatgc ttgtcaatat aatattattc   780
cacttgatag gatgtgtccc cagatacatt acagagttta atcgttgatc actctgccca   840
cagtctaatt gtgataacaa actaatcgca gctgttacag agatgccagt taagtaatcc   900
gtgtttcagc tgagtttctc aatggcagct ttatttata gggccatctc tgacgagatt   960
catttggcag atattttct aacaaatgtt cgtcccagat gctgctagta tttaaacagg   1020
atatgctaag atttagatag aaatataaaa tccttggata tttaaaacct agaattgtta   1080
gataatccca tagaaagtac agtagttctg catatgggaa agtgccttgt acttggtaaa   1140
ataagttaaa ttttcaatat ttacatgtca aagagaacaa ggactatcta tatatgcaac   1200
atttattttt gcttatcatg gttgaacaat tgtcagcatc agtgctaaca ccccatatgt   1260
gatgtatgta ttttcactct ctcccactca aggttttat tgaactctaa ttagcagttt   1320
cttgcgtgtg aaattttgta gaacatttgc tactcccaga agtcttgaag gtctaaacca   1380
gcaatgaaaa ccactctgat ttcctagata ctgtgaagta aaccaatttg atacttataa   1440
gaaattatat tccccttaa tgctttttcct acattttaat ttcaaactaa ggaaaggcac   1500
aaatttcact ttttttatgta taatttattg cttggcatcc ctccaaatac aaatcctgta   1560
tgataatta caacccctttt catgtttata tggttgctgc tacaatgaac aggaaaataa   1620
agcaaaagga atgaaaatga atgtttgggt ttcattatat tgttaagtca gttttgtaca   1680
ttgaattatt tagtatttaa taataaatat ctttagtaag ttaatatgtg cctgatataa   1740
agaaaatgtt aaggcattca taagttaaag tcagaaatag caaacgacca gatgttagta   1800
tcagattaaa acaaaacaga ttcaatattt tttttaaaa gaattaagtg gatttaaatt   1860
acttccaaaa tacttttgtt tataggcaac aattaagaga aacaaagtgt accagcacac   1920
agttaaactg gctttttattc ttcacttgag actagttcta attgatcact gtgctattgt   1980
atgatttgat tgtgctgaca gttacatgcc actgttccca taataacaat ttttcttctt   2040
tgttcaaatg aattttctaa ttacacgtgt gatgggatgt tttaattctt ttcccttttc   2100
aaatccacct tcctgttgca atgcatgatg ggcaggctca atattgtgca tgacacccgc   2160
tacaagtgtt ggtaggtgcc agctttgttt cttgattatc ttaaacctat ggtgtacctc   2220
acagcccctc aaaatccact gctaagttta acttatatct attgggcaag tccatttccc   2280
ttttactaac acttgtcaat taaatgccat tttctgttta attgacatgg actcacataa   2340

```
gtgttttctt tacacacaac agtttccttt agtcaccttt ggtggatttt gattggacta  2400
tgagttctgg tgtgtaaaaa aaatctattt cataaaagta atatactgta tattttata   2460
atagtaaatg agaaaaaaat actttcattc aaacagataa ctgtatatat gaagtaaata   2520
cttgtattt                                                           2529


<210> 6018
<211> 392
<212> DNA
<213> Homo sapiens

<400> 6018
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt    60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga   120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa   180
tgggactctg ttagaagtca ttcgtttttc atttggagaa caaaatcgtt tgctagagct   240
attacttcat cacataccct tggtactcat ggaatttaaa ctttgaaatg atactaaagg   300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc   360
tttcatacag gaagtagtca ctaaagcact gg                                 392


<210> 6019
<211> 392
<212> DNA
<213> Homo sapiens

<400> 6019
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt    60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga   120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa   180
tgggactctg ttagaagtca ttcgtttttc atttggagaa caaaatcgtt tgctagagct   240
attacttcat cacataccct tggtactcat ggaatttaaa ctttgaaatg atactaaagg   300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc   360
tttcatacag gaagtagtca ctaaagcact gg                                 392


<210> 6020
<211> 1710
<212> DNA
<213> Homo sapiens

<400> 6020
aagcatcatt caaccataca tccatccatc ctcctatcat tctgttctcc cctttccttt    60
cctctcttta tccttttttc cttcctccct tcctctgtcc ttcagttttc catccatcta   120
ttcatccccc catttatcta tccacccatc tttccatttta ttcagtcaat aaacattgat   180
tgtatgccac atggtatacc agtatttatg tgaaggattg caaactgata gctcaagggt   240
aaaatctagt atctagaaat attttgtttt aagagtgttt aaatgaaaac taaatgtaaa   300
tcctttagat aggacacata ctgtacccctt cagttccaaa cgctacaatt ccctattgcc   360
ttaggccagg ttgtttcaga tattttgttc aaaagagcta cgttttattg aatggttgct   420
cttgttccct gctgcactga gtgctttgcc tacattatct catttttttt cacaacgccc   480
agaaggttgg cattaatatt ttcattttac gaatgagtaa tttggagcct agtaaggtac   540
agtgatttgt cccaagttaa atggcttttg taaggtttag atttaagtac aacttgaact   600
caagtcaggc tgacttggtt agtctctcaa tatctattac acgaagacct taaaaatgat   660
ttgggagagt ggaagtagcc cttactgaac acctaactcc atggtgtttc acaccttcca   720
cctcatttaa agataaatat aagtattagg ttaaattcat attgaagttt tgtcttttca   780
aatttcgata tatacttgtt ttaaccttcc cctttcagga ccagattgat tatttgtaga   840
tattatgcat aatttaggat ctatttatgt tatatatatg agttttcact catgaaatta   900
cggcgtgtaa gaaataccac tttcctttac accatttctt ttttcgttga aattaagtct   960
agctctgaac tgtgatctct atctccctgg gttgagagaa ataacaggca ttactgggaa  1020
tccaggacta catgccccag ctccctctct ttcctgacct acctcaatg tgaggtcctg   1080
tacagtctag tattctcaga caggctatgc attcttcatg cttcagtcac cgctgctcac  1140
```

```
tgctgatgtg atcattgtct atgcttgcaa gagctcttaa gacaggtact ccaggggttc   1200
tgtgcttgcc ttggatatag gcttccttgt ctatgccctc caggctccca tgcccttgag   1260
gacctgatgt ctgcagggct attgtgaaag aacaggctac ctacccagct acctgtggag   1320
ctgcacactg cctgccactt caatcttgag gaattttttt ctctgccctc catcaccatt   1380
tttgcttacc taccatcttc agaatcacac ctcttgtctc cctctctagc atatctccct   1440
caatcagtgt tggcttatga gttttaacag ttctgaaaat acatttactt taaacaactt   1500
ctattttggc ttgtattaca actctaccaa gaataaggca acgaaaggcc aggaaactct   1560
taggtggtgg tgtaggtcta agggcagggg taggcagggt tgtgtttatg caaagaagag   1620
aaaaagattt gtcacattta gtatcattaa tacatataat catttataat tatgtatatt   1680
aataaattac ttataattaa taaaaataaa                                      1710


<210> 6021
<211> 9525
<212> DNA
<213> Homo sapiens

<400> 6021
gttcccatgg tgcacggtgc tacgccagcc actgtgtccg cagcaacaac atctgccaca     60
agtgttccct tcgctgcaac agccacagcc aaccaggttt gctaatttac agctttgttt    120
cttaaaaaac aactctaata gggctcaatc caacagccct tacgcacgtg gatttcccat    180
tgaggtcagt gggaatcgtg tgtacgtgag ggctgtagag ggtgctttaa taagcatggg    240
gtttcaaaga tacctcttgt tggcctacac attctctcta tgatgagcag cagaatgctt    300
ttatgccatt tataagtgct ccaaagtcgt cgcagctcca tttctgaagc tactaaaatg    360
atatttacac aagcaattct caattggttt caacaatcgt gcaggtattt tgaccaatca    420
taaatagagg ccattttaa ggtttttatt aaaatattg tggtatatac agtttcttag    480
ttcttgccta aatgattaat agaaagtaaa atacttaaat gtattacgta tgccacaaat    540
gaccactctt gtaaataagt ttgttataaa ttcattataa tctgaatcat ttaatgagca    600
gattcaaaat aaattgtttg catgtagcat ttctaagctt ttattctcaa tgctttcagt    660
gaaagaaaaa tcctaagcgc tcttattttt ataattaccc tgcataaatg ttggagattt    720
atgaaggaaa agaaaagaaa ttaagtatgg caaattgaca gtcattctgt attccatgca    780
aatttattgc aggatacttt taagtgaaag ggatttgttt cataaattta aattttatga    840
tatacaataa taactatttta aaaataaatg atgatttaaa atatttaaaa tttaaaaatt    900
gacatttatt cacccagcat tttctgattc tacttaaaaa tatttctag aaaatactgg    960
ttgatttcaa gtttcattta tgtagatttg ggcttcaata gagttgatag tgtatgaaaa   1020
acatagagcc aagccacatt tcagataatc cacagaggaa gattaaaggt agccaaatga   1080
atctcaaaag aatgagtgtc agatgaaaat gaacatgttc ccccttggga agggaagacc   1140
aattaagaca tagatttgtt gttattactg tgaggagtag ccacccttgt tctataatac   1200
atcacgtact gttgatgaag aacattcagc tattagtaca gccattaaaa actttcaaaa   1260
tcagaacaca aaaatgaatt taacgtttca gtcaagcttt aaacatttct ggcaaagaa   1320
tcattaattt ttcagaagct tgtcaaaata gccctgggtt tacatgaaca cgtcagactc   1380
atttacaaga atgctagatt gtgcatatgt ggcatgttaa taagtaacct ttggtagaac   1440
tattatgatg gattcaatac aatccatcta tggtgcaaat caatgataaa gaactctcat   1500
gcgtctacca tgtatgactg tagaattgct ggtgtaagca gaactatagc agagcaaatt   1560
tcaacatgcc cttggccacc tgggttgtag gggacacttt acttttttgca ttgtgctgtg   1620
accatttcat gcataatctt ggatcttcat actatttgac aaccaaaaga aagaaaaggg   1680
aatggatata tatatacaca catatattat atctacatat acatacatat gtatatgcct   1740
acagtacatt agcaatgctg gaaatagctg atgccacaaa atgcagcctg catgcatgca   1800
gaagtttata gctggccctt catctgcatc gattggtgtt gaaggtcctt ggtatgtttc   1860
gacagcccca tccttgatgc ttctacactg ttgggtgcaa catcctgtcc tgcagcagca   1920
ggaaaaatgg tatgagaagc ttcattatgc ttggagcaca tttttcgtgcc atttgccaat   1980
gctgtaaaat tgtgtaaaaa tgtcagctga gaactggaaa taaaacaggg acatattaat   2040
atacacgcca gactgtggat tgtagtatgt tgaattagcc taagatgtct aaattgaaag   2100
aacagcaaca aaatgccttt gtgtatctga tttcattatt ctcccaacaa cattgctgaa   2160
atgggattag tatcatttta tagaagagac ttaagcatag agtaatgagt tgctttgctc   2220
agggtcacac agccagtaaa tggatctctg gggctagcac ccgtgtcatc agtcctctga   2280
cagtctcaat ccattgtgct gcctctctca ggttagcagg cattaatttc aggttgaaga   2340
atcaagctac aaatccgaag ttcttaactt tgggaactat tgaaataagt caactctata   2400
ttggtttctt attgtatttt ctctcaagtt ctctaattct cttgcccatt taaaatacaa   2460
taaaaggtgt catcaggatt cagaaatatg ttctgaagta aacttaggct cttacctagt   2520
tcttttgaat tactgcttta taattcttac ctggtatttt taatttggaa aaaaaaagtt   2580
```

2926

```
agacaccccta atttgaacga aaatgttaga aatttggtgc acaaaaatag gcaagacatt    2640
tccttatctg atttctggat gattactaag taactgaaac cacggggggtg cgtgtgtgtg    2700
tgtgtgtgta ggccaacaaa aagggcttct ttcaattact gctctgcatg aattttttgat   2760
agtttttactt atttcctaaa agctggtaac atttatagaa tagtatttaa catgaagatt    2820
ttaaagttag ttgctacttt ggcatttaag tttacattaa cttactgtta tgttgaccag    2880
ataaggacta tcacctcaca gctgaatttc acttttcttt aaaaatttaa tattaaaatg    2940
ttttcatctc ttaattgttg gcttgcttgc atggatcatt cattaaataa ttttttattt    3000
gctagatacc cataatatct gccgaacatc tgactagcca caagtatgtt acccagatgt     3060
agaattttca tcactaaaca gtaagttcat tatgtaatat atagttgcat atttgtggtg     3120
gtttttttta agatagcaat tgtatagtgc acttaaaatt ttgcgaaatc tctgagaaaa     3180
tatatacaga tcacatttt atcttaaatg ggtgtgagga atttttatcag acatctttat    3240
aacaaatatg ttaatatcac ttaaatatac aaagtactaa gagaaaataa attttttaaa     3300
tttctgatta gagataaaca cagcataaag aaaatgtatg accaaaaagt aattagaagg    3360
tgtagatcaa gggttggcaa actttcttat agggtcagac agtaagtatt tttgctgtgt    3420
gggccgtatc gtttctgttg cagctactct cctctgccat tgtatcatga aagcagccag    3480
agaccacatg taaacaaatg ggtgtagctg tgttccagta aaactttatt tacaaaaaca    3540
ggcagtacat cacatctggc ccacaggcag tagtttggct gacctctggt gtagattatc     3600
actttttttt ttttttttca ttctttggct aaaccttaaa tgggaccatg tacttacttc    3660
atcccatgca ccaccataca caggggcatt agaatgtaat gagtttggct aagcgtggtg    3720
gctcacactt gtaatccaag cactttggga ggccaaggtg ggtggattgc ttgagcccag    3780
gaatttaaga ctagcctagg caacatggtc aaaccctgtc ctacaaaaaa tacaaaaaaa    3840
tcagctgggt atggtagcac actctgtagt tccagctact agggaggcta aagtgggagg    3900
atcacttgag cccaggaggt tgaggctgca atgagctgtg attgcgccac tgcactccag     3960
cctgggcaac agagcaagac ctgtctcaaa aaaaaaaaaa tgtagtgagt ctgactttaa    4020
ataaatatat acacataatc aaatatatgt gtacacacaa atctacatat tcaaatgaat    4080
cttagttact ttaaagtagt tacctcagag gatcatataa ttctgaaaat gttgccattg    4140
ccacatttta aaaatggttt gaaagtcttg tattttgtct ttaaaaacac tgtggtggtg    4200
gggtcggggg aggggggagg gatagcattg ggagatatac ctaatgctag atgacacgtt    4260
agtgggtgca gcgcaccagc atggcacatg tatacatatg taactaacct gcacaatgtg    4320
cacatgtacc ctaaaactta aagtataaaa aaaaaaacaa aaaaaaaac cactgtctta     4380
aatacttaaa aaggtgtcca tttttcatcc ataggaatat gttttgtcca gtatgcatgc    4440
attcaagtta taacatgtgc tcagatgctt gttatttatt tttatattta gaaagagaca    4500
ttacatttaa aactgaaatt ggttaagatg ggtgaccatt ctttgttgct tcctttatt    4560
atttattaac atatttacaa atgagttttt ggtgctactt tgtgttagtt accatggcaa    4620
ggagataaag gtaaatagat aataagataa agatgtaagg aatttcagga taatatagta    4680
aaataagaga ggtttgaaga aatttctctt agagcaaaga tgaaggagca gctgttccca    4740
acaggatccg taaacaaatg aatgtggaca atgaaggtgt tgttctaaag agaatggagg    4800
tgtaaaggcc ttgtaaaaga aggacagtgt gccaagtcag gaaacgatga tggctgagaa    4860
ccaactcaga aacccttgtg atgttaatct gtagcaaagc tggacaaagt caaagcccat    4920
gcaggagaac aggcagaatt caatagccat ttaagaaaga aatgagaggc tcaactggag    4980
aagtactgcc aaagatatgc tgcaatcgtg aattattaaa attgattttt gtctatttca    5040
taagttttct caaagcagtt ctgataaaaa ggttcagatt ctgaacaata gccacatttg    5100
tagaagaaga ggcattactt tgcagtgttg taggtttaga agaagaggtt ttttgacat    5160
gccagaaaaa tctgtttcaa gctcttatag tcaattaggt gtgtttggta tgtatatatt    5220
taactaaatt ctgtttcttaa gcaataatcc aggttgaaaa aaatttctaa aaataattag    5280
caaaccagta gttttgtctg tattgaagct aagcttttaa tgttctgttc atttaacaaa    5340
tgattgctca tcttcatgag gagttgcaac atttaaactg gtttttgagt cactagatta    5400
tgatttcttt cattttcaag gttgtattgt gaagcatact tttaatatat gtaaatattc    5460
gctgctgaga acaaatttca tgtaaaaact ggaactgtta atccacaagt acattgtaat    5520
gtctattaca gcttaattca tgagtaataa ttctgtaatt caaaaagaat gatttttatt    5580
ttcttagttt taggtgaaaa aagttcaaca aactgaatta cccaaagcca tcacttaaag    5640
tatcattctt ttttttttcaa acatgcatta tgctaatcaa gcacccaaaa agaataaatc    5700
ttgtttaata gaacatatta catgaatttt aattttgtag accagacctt tactcttgaa    5760
accttattaa acttcagaaa agaagtttaa attttgccct acaacaattg tgctaaaaaa    5820
gagctctgta tattaggccc cctgattctg caaatgtatt ttatacttttt agtttaggat    5880
tggtaaattt tggagcacat tctacagttt tattaaattg tacgtgttat ttcattcgtg    5940
tagagatgat agacaaattt tgatctgtct actcttgtaa aatggttttt gttttttatat   6000
gaagatataa tgtaaatata ctggttaatc aaaaagaaaa ttttcatatt aaatgtatat    6060
tagaaactgc ttttagatat tacctgttct aacaaagctt atctcttttt ccccttgtaga   6120
tcatgctaaa gaggaaagga cagtgtgctt ggttagagta aaggacgagg tcattagcca    6180
tattgtatat atcgtcaagc aacacacaca aaagttcctc agccacaaga catccacata    6240
```

                                          2927

```
ttgcatgtta accagaagaa aagacaacat tttccggaaa tccactgcac actgttgcct    6300
atacactttg tacatttaat tgatatttgt gctgaggtga tattcctgtc taaaagaaca    6360
acattgtctt tcttttctag cacagagtta tgcattcaaa gatgcatacc tagttagttt    6420
cctatatatt catgccatct tgaaaagaca gactatggtg taaccatgat tctattatgt    6480
attggtacgt ctgtagacca agatataatt tttaaaaat aagtttattt ctttcaaggt    6540
ttacaaataa caaaggtgca ccttgtattt aaaattgcca ttatagatga gagcgtgcat    6600
gcacagtcat ttttgtttaa gagtaatatt tttaatgtaa tagattgtaa gacgtggtga    6660
gggagggatc tgacagagat gaatgtgcca agcaaaacca caactgtgta tattttaaag    6720
cacatcatgg ctttaagtac catgttgtta aggattctca tgaagtgcca tagactgtac    6780
atcaaattag agtattattt cttcagtgtt attgttttca gagccacatt ttgttgcata    6840
tttgctagta ctaatcagtc aaagggcacc attctttttt tttttttttg aaaccaaagc    6900
tgtctcagaa atggccaatt taactttaca gtaacaatag acagcacaac acaaactctc    6960
tcaatacaga taaactcaca catactggag atatatatat aatagatata tataaaatta    7020
ttttaatgca ttgtagtgta atatttatgc atactatact gtataacatg ttattcaaaa    7080
gggattgcca tttctgagac acagtaacaa aaaaatgagg aaattatttt gcttctattt    7140
atagcctctg tcaaaagtca aaagactata aatgctttgc aaaaatggtt tcacgtttgc    7200
ttaaatgctt catcacagtc acattcaaaa tagtgactct aaacaaagaa gaaagcagca    7260
ctgtcatcag atgcatgata aaccaaaata tgaaaatggg aaatgtttaa ttaacctagt    7320
aattgggtgg gttaagtaca tgggtgaatt ttatatgtga tttttgtttt gttttgtttt    7380
gttcagatta actgcttata gccttagaaa gccttttaca aaattaaaaa aaaaatagat    7440
gtgcattcag ttttaagaa tggaatcatc caaaggaatt cctttttttg aggtttggat    7500
gttgcagcta gtaaaggata ttttgctct gttcagcagt tctaaaaatt gctgaagtag    7560
gggccaggtc actggtagtt atagtatgga atgggagaag tgaaagttca gttatagaac    7620
tttccatact tccaagttta ctgcaagttt ttatgcttga gagagatgct ttctaatata    7680
agactgatgt gttgatttta ctgattgtac tgtacatcta ttaaagcctt agattattac    7740
attacgggtt ggaacccata ccaatgtaat ttcaatcgtg ttaagaaagt aatggtgact    7800
tcacatgtta ttgtagttag ttacattata gaatattact tattttctt gttaaaatgt    7860
agttttcat ttcctacatt tattagattt tcattttcta ttaacaattg aataccattt    7920
cagtttatag acttgtttta ttagatttta ccaatgaatt tttcaaaata caaaaaaaag    7980
tagtttttcc ttcataacat actcagtttt gaattacatg tagtgtcaca tgaatattcg    8040
tattgttaac taaatgattt atattttact gatttaatat tacagtgtaa gaatgtcagt    8100
cattgttagt tcttgtctag ttttcattaa aagaacaaag atcttttata tggatatctt    8160
ataaatatat aatcattgct aagtaagaag ttaagttgtt gctatcgcaa caatcctggc    8220
agacaattga gtaatatttt gatgatttat tttgtttgta attagttatt ataagaagat    8280
ctagatccta gatattagaa taaaatttat tttctactgt atccatttca aatgttaaaa    8340
tattgtttaa tatttttgaa atccctgagt atcaggcctt gttataaata agctgcataa    8400
tcaataaata gaacaaggga cttttgttg ataatccaaa tactcaaagt ttacgtaatg    8460
aaaattatag cgtgtgtgca aactcttgag ggttgattat gctgcaattt agcatgttgg    8520
aacgtctagg gagaaggttg acttttgca cttctgtata tagtcaaaag agagaaacct    8580
gtataatagt aagatcttat tttgaataaa aacgtctata attacaagga gttttgttaa   ·8640
ggctaataca atgacagact gagcaaaatt gcttgcaaa, gtggcacaga gttagcactc    8700
catacccctt caaacatgtt gctttgcttt cttgtggaca gcttgtagtt tgccaggatt    8760
ttttcagctg gaaagatacg ccatcctttc aaaccctcat gactgacaaa aactccatgg    8820
ggccaaatct gcctgaagat cattaccaaa aatagcaggt acttctacca ttaaggtgaa    8880
atcatggatc agatattcct tacatttttc aaaactactg catgtttaaa acttcaacaa    8940
aaaaagagag aaagaactat actaagaaca tatattattc agatcagttt ctgccaattt    9000
cagtggttta ttgttcacaa aaaaatcttc aaaacaagta ttgactttca caaaatttaa    9060
atcataaaca ggcaaaccaa acagcacact gtagctatag ttgttatgtg attgtttttt    9120
aattgctgta ggatcctgtt ctttcagcag gtgaaaaata aaacgcagtt caaatttcat    9180
ggttttaatt ttcaactcag aagcactcaa aaatgcaaaa tgtgataatg ggcacttgtt    9240
taaaagaatt agtgtatcca gccttcactc cagctggtta aaaatgttgc acttatcagc    9300
aaccctacca ctttcatctg ctgaaaggac aaatgtgctt ggtttactta ttatgtaatc    9360
acaacttact ttctgcttgt agttgcttaa aattatgtat tttgtcttgg gctgcaattt    9420
gttttatgct tattttatta ttactgcagt agttgacttt gctgtatgga aaaataaagt    9480
gaaattgccc taataaaact tctctttctt aagtatattc gtgta                    9525
```

<210> 6022
<211> 9525
<212> DNA
<213> Homo sapiens

<400> 6022

```
gttcccatgg tgcacggtgc tacgccagcc actgtgtccg cagcaacaac atctgccaca        60
agtgttccct tcgctgcaac agccacagcc aaccaggttt gctaatttac agctttgttt       120
cttaaaaaac aactctaata gggctcaatc caacagccct tacgcacgtg gatttcccat       180
tgaggtcagt gggaatcgtg tgtacgtgag ggctgtagag ggtgctttaa taagcatggg       240
gtttcaaaga tacctcttgt tggcctacac attctctcta tgatgagcag cagaatgctt       300
ttatgccatt tataagtgct ccaaagtcgt cgcagctcca tttctgaagc tactaaaatg       360
atatttacac aagcaattct caattggttt caaccaatcg tgcaggtatt ttgaccaatc       420
aaaaatagag gccattttaa ggttttattt aaaatatttt ggtatataca gtttcttagt       480
tcttgcctaa atgattaata gaaagtaaaa tacttaaatg tattacgtat gccacaaatg       540
accactcttg taaataagtt tgttataaat tcattataat ctgaatcatt taatgagcag       600
attcaaaata aattgtttgc atgtagcatt tctaagcttt tattctcaat gctttcagtg       660
aaagaaaaat cctaagcgct cttattttta taattaccct gcataaatgt tggagattta       720
tgaaggaaaa gaaaagaaat taagtatggc aaattgacag tcattctgta ttccatgcaa       780
atttattgca ggatactttt aagtgaaagg gatttgtttc ataaatttaa attttatgat       840
atacaataat aactatttaa aaataaatga tgatttaaaa tatttaaaat ttaaaaattg       900
acatttattc acccagcatt ttctgattct acttaaaaat attttctaga aaatactggt       960
tgatttcaag tttcatttat gtagatttgg gcttcaatag agttgatagt gtatgaaaaa      1020
catagagcca agccacattt cagataatcc acagaggaag attaaaggta gccaaatgaa      1080
tctcaaaaga atgagtgtca gatgaaaatg aacatgttcc cccttgggaa gggaagacca      1140
attaagacat agatttgttg ttattactgt gaggagtagc caccccttgtt ctataataca      1200
tcacgtactg ttgatgaaga acattcagct attagtacag ccattaaaaa ctttcaaaat      1260
cagaacacaa aaatgaattt aacgtttcag tcaagcttta aacatttctt ggcaaagaat      1320
cattaatttt tcagaagctt gtcaaaatag ccctgggttt acatgaacac gtcagactca      1380
tttacaagaa tgctagattg tgcatatgtg gcatgttaat aagtaacctt ggtagaact      1440
attatgatgg attcaataca atccatctat ggtgcaaatc aatgataaag aactctcatg      1500
cgtctaccat gtatgactgt agaattgctg gtgtaagcag aactatagca gagcaaattt      1560
caacatgccc ttggccacct gggttgtagg ggacacttta ctttttgcat tgtgctgtga      1620
ccatttcatg cataatcttg gatcttcata ctatttgaca accaaaagaa agaaaaggga      1680
atggatatat atatacacac atatattata tctacatata catacatatg tatatgccta      1740
cagtacatta gcaatgctgg aaatagctga tgccacaaaa tgcagcctgc atgcatgcag      1800
aagtttatag ctggcccttc atctgcatcg attggtgttg aaggtccttg gtatgtttcg      1860
acagccccat ccttgatgct tctacactgt tgggtgcaac atcctgtcct gcagcagcag      1920
gaaaaatggt atgagaagct tcattatgct tggagcacat tttcgtgcca tttgccaatg      1980
ctgtaaaatt gtgtaaaaat gtcagctgag aactggaaat aaaacaggga catattaata      2040
tacacgccag actgtggatt gtagtatgtt gaattagcct aagatgtcta aattgaaaga      2100
acagcaacaa aatgcctttg tgtatctgat ttcattattc tcccaacaac attgctgaaa      2160
tgggattagt atcattttat agaagagact taagcataga gtaatgagtt gctttgctca      2220
gggtcacaca cacagtaaat ggatctctgg ggatagcacc cgtgtcatca gtcctgtgac      2280
agtctcaatc cattgtgctg cctctctcag gtaagcaggc attaatttca ggttgaagaa      2340
tcaagctaca aatccgaagt tcttagcttt gggaactatt gaaataagcc ccctctatat      2400
tggtttctta ttgtattttc tcccaagttc tctaattctc tggcccattt aaaatacaat      2460
aaaaggtgtc atcaggattc agaaatatgt tctgaagtaa acttaggctc ttacctagtt      2520
cttttgaatt actgctttat aattcttacc tggtattttt aatttggaaa aaaaaagtta      2580
gacaccctaa tttgaacgaa aatgttagaa atttggttgc acaaaaatag gcaagacatt      2640
tccttatctg atttctggat gattactaag taactgaaac cacggggggtg cgtgtgtgtg      2700
tgtgtgtgta ggccaacaaa aagggcttct ttcaattact gctctgcatg aattttttgat      2760
agttttactt atttcctaaa agctggtaac atttatagaa tagtatttaa catgaagatt      2820
ttaaagttag ttgctacttt ggcatttaag tttacattaa cttactgtta tgttgaccag      2880
ataaggacta tcacctcaca gctgaatttc acttttcttt aaaaatttaa tattaaaatg      2940
ttttcatctc ttaattgttg gcttgcttgc atggatcatt cattaaataa ttttttattt      3000
gctagatacc cataatatct gccgaacatc tgactagcca caagtatgtt acccagatgt      3060
agaattttca tcactaaaca gtaagttcat tatgtaatat atagttgcat atttgtggtg      3120
gtttttttta agatagcaat tgtatagtgc acttaaaatt ttgcgaaatc tctgagaaaa      3180
tatatacaga tcacattttt atcttaaatg ggtgtgagga attttatcag acatctttat      3240
aacaaatatg gtaatatcac ttaaatatac aaagtactaa gagaaaataa attttttaaa      3300
tttctgatta gagataaaca cagcataaag aaaatgtatg accaaaaagt aattagaagg      3360
tgtagatcaa gggttggcaa actttcttat agggtcagac agtaagtatt tttgctgtgt      3420
gggccgtatc gtttctgttg cagctactct cctctgccat tgtatcatga aagcagccag      3480
agaccacatg taaacaaatg ggtgtagctg tgttccagta aaactttatt tacaaaaaca      3540
```

```
ggcagtacat cacatctggc ccacaggcag tagtttggct gacctctggt gtagattatc   3600
actttttttt tttttttca ttctttggct aaaccttaaa tgggaccatg tacttacttc   3660
atcccatgca ccaccataca caggggcatt agaatgtaat gagtttggct aagcgtggtg   3720
gctcacactt gtaatccaag cactttggga ggccaaggtg ggtggattgc ttgagcccag   3780
gaatttaaga ctagcctagg caacatggtc aaaccctgtc ctacaaaaaa tacaaaaaaa   3840
tcagctgggt atggtagcac actctgtagt tccagctact agggaggcta aagtgggagg   3900
atcacttgag cccaggaggt tgaggctgca atgagctgtg attgcgccac tgcactccag   3960
cctgggcaac agagcaagac ctgtctcaaa aaaaaaaaa tgtagtgagt ctgactttaa   4020
ataaatatat acacataatc aaatatatgt gtacacacaa atctacatat tcaaatgaat   4080
cttagttact ttaaagtagt tacctcagag gatcatataa ttctgaaaat gttgccattg   4140
ccacatttta aaaatggttt gaaagtcttg tattttgtct ttaaaaacac tgtggtggtg   4200
gggtcggggg aggggggagg gatagcattg ggagatatac ctaatgctag atgacacgtt   4260
agtgggtgca gcgcaccagc atggcacatg tatacatatg taactaacct gcacaatgtg   4320
cacatgtacc ctaaaactta aagtataaaa aaaaaaacaa aaaaaaaaac cactgtctta   4380
aatacttaaa aaggtgtcca tttttcatcc ataggaatat gttttgtcca gtatgcatgc   4440
attcaagtta taacatgtgc tcagatgctt gttatttatt tttatattta gaaagagaca   4500
ttacatttaa aactgaaatt ggttaagatg ggtgaccatt ctttgttgct tcctttattt   4560
atttattaac atatttacaa atgagttttt ggtgctactt tgtgttagtt accatggcaa   4620
ggagataaag gtaaatagat aataagataa agatgtaagg aatttcagga taatatagta   4680
aaataagaga ggtttgaaga aatttctctt agagcaaaga tgaaggagca gctgttccca   4740
acaggatccg taaacaaatg aatgtggaca atgaaggtgt tgttctaaag agaatggagg   4800
tgtaaaggcc ttgtaaaaga aggacagtgt gccaagtcag gaaacgatga tggctgagaa   4860
ccaactcaga aacccttgtg atgttaatct gtagcaaagc tggacaaagt caaagcccat   4920
gcaggagaac aggcagaatt caatagccat ttaagaaaga aatgagaggc tcaactggag   4980
aagtactgcc aaagatatgc tgcaatcgtg aattattaaa attgattttt gtctatttca   5040
taagttttct caaagcagtt ctgataaaaa ggttcagatt ctgaacaata gccacatttg   5100
tagaagaaga ggcattactt tgcagtgttg taggtttaga agaagaggtt ttttgacat    5160
gccagaaaaa tctgtttcaa gctcttatag tcaattaggt gtgtttggta tgtatatatt   5220
taactaaatt ctgtttctta gcaataatcc aggttgaaaa aaatttctaa aaataattag   5280
caaaccagta gttttgtctg tattgaagct aagcttttaa tgttctgttc atttaacaaa   5340
tgattgctca tcttcatgag gagttgcaac atttaaactg gtttttgagt cactagatta   5400
tgatttcttt cattttcaag gttgtattgt gaagcatact tttaatatat gtaaatattc   5460
gctgctgaga acaaatttca tgtaaaaact ggaactgtta atccacaagt acattgtaat   5520
gtctattaca gcttaattca tgagtaataa ttctgtaatt caaaaagaat gatttttatt   5580
ttcttagttt taggtgaaaa aagttcaaca aactgaatta cccaaagcca tcacttaaag   5640
tatcattctt ttttttttcaa acatgcatta tgctaatcaa gcacccaaaa agaataaatc   5700
ttgtttaata gaacatatta catgaatttt aattttgtag accagacctt tactcttgaa   5760
accttattaa acttcagaaa agaagtttaa attttgccct acaacaattg tgctaaaaaa   5820
gagctctgta tattaggccc cctgattctg caaatgtatt ttatactttt agtttaggat   5880
tggtaaattt tggagcacat tctacagttt tattaaattg tacgtgttat ttcattcgtg   5940
tagagatgat agacaaattt tgatctgtct actcttgtaa aatggttttt gtttttatat   6000
gaagatataa tgtaaatata ctggttaatc aaaaagaaaa ttttcatatt aaatgtatat   6060
tagaaactgc ttttagatat tacctgttct aacaaagctt atctcttttt cccttgtaga   6120
tcatgctaaa gaggaaagga cagtgtgctt ggttagagta aaggacgagg tcattagcca   6180
tattgtatat atcgtcaagc aacacacaca aaagttcctc agccacaaga catccacata   6240
ttgcatgtta accagaagaa aagacaacat tttccggaaa tccactgcac actgttgcct   6300
atacactttg tacatttaat tgatatttgt gctgaggtga tattcctgtc taaaagaaca   6360
acattgtctt tcttttctag cacagagtta tgcattcaaa gatgcatacc tagttagttt   6420
cctatatatt catgccatct tgaaaagaca gactatggtg taaccatgat tctattatgt   6480
attggtacgt ctgtagacca agatataatt ttttaaaaat aagtttattt ctttcaaggt   6540
ttacaaataa caaaggtgca ccttgtattt aaaattgcca ttatagatga gagcgtgcat   6600
gcacagtcat ttttgtttaa gagtaatatt tttaatgtaa tagattgtaa gacgtggtga   6660
gggagggatc tgacagagat gaatgtgcca agcaaaacca caactgtgta tattttaaag   6720
cacatcatgg ctttaagtac catgttgtta aggattctca tgaagtgcca tagactgtac   6780
atcaaattag agtattattt cttcagtgtt attgttttca gagccacatt ttgttgcata   6840
tttgctagta ctaatcagtc aaagggcacc attcttttt ttttttttg aaaccaaagc    6900
tgtctcagaa atggccaatt taactttaca gtaacaatag acagcacaac acaaactctc   6960
tcaatacaga taaactcaca catactggag atatatatat aatagatata tataaaatta   7020
ttttaatgca ttgtagtgta atatttatgc atactatact gtataacatg ttattcaaaa   7080
gggattgcca tttctgagac acagtaacaa aaaaatgagg aaattatttt gcttctattt   7140
atagcctctg tcaaaagtca aaagactata aatgctttgc aaaaatggtt tcacgtttgc   7200
```

2930

```
ttaaatgctt catcacagtc acattcaaaa tagtgactct aaacaaagaa gaaagcagca    7260
ctgtcatcag atgcatgata aaccaaaata tgaaaatggg aaatgtttaa ttaacctagt    7320
aattgggtgg gttaagtaca tgggtgaatt ttatatgtga ttttttgtttt gttttgtttt   7380
gttcagatta actgcttata gccttagaaa gccttttaca aaattaaaaa aaaaatagat    7440
gtgcattcag tttttaagaa tggaatcatc caaaggaatt cctttttttg aggtttggat    7500
gttgcagcta gtaaaggata tttttgctct gttcagcagt tctaaaaatt gctgaagtag    7560
gggccaggtc actggtagtt atagtatgga atgggagaag tgaaagttca gttatagaac    7620
tttccatact tccaagttta ctgcaagttt ttatgcttga gagagatgct ttctaatata    7680
agactgatgt gttgatttta ctgattgtac tgtacatcta ttaaagcctt agattattac    7740
attacgggtt ggaacccata ccaatgtaat ttcaatcgtg ttaagaaagt aatggtgact    7800
tcacatgtta ttgtagttag ttacattata gaatattact tatttttctt gttaaaatgt    7860
agttttttcat ttcctacatt tattagattt tcattttcta ttaacaattg aataccattt   7920
cagtttatag acttgtttta ttagatttta ccaatgaatt tttcaaaata caaaaaaaag    7980
tagttttttcc ttcataacat actcagtttt gaattacatg tagtgtcaca tgaatattcg   8040
tattgttaac taaatgattt atattttact gatttaatat tacagtgtaa gaatgtcagt    8100
cattgttagt tcttgtctag ttttcattaa aagaacaaag atcttttata tggatatctt    8160
ataaatatat aatcattgct aagtaagaag ttaagttgtt gctatcgcaa caatcctggc    8220
agacaattga gtaatatttt gatgatttat tttgtttgta attagttatt ataagaagat    8280
ctagatccta gatattagaa taaaatttat tttctactgt atccatttca aatgttaaaa    8340
tattgtttaa tatttttgaa atccctgagt atcaggcctt gttataaata agctgcataa    8400
tcaataaata gaacaaggga cttttttgttg ataatccaaa tactcaaagt ttacgtaatg   8460
aaaattatag cgtgtgtgca aactcttgag ggttgattat gctgcaattt agcatgttgg    8520
aacgtctagg gagaaggttg acttttttgca cttctgtata tagtcaaaag agagaaacct   8580
gtataatagt aagatcttat tttgaataaa aacgtctata attacaagga gttttgttaa    8640
ggctaataca atgacagact gagcaaaaat gcttgcaaaa gtggcacaga gttagcactc    8700
catcccctt caaacatgtt gctttgcttt cttgtggaca gcttgtagtt tgccaggatt      8760
ttttcagctg gaaagatacg ccatcctttc aaaccctcat gactgacaaa aactccatgg    8820
ggccaaatct gcctgaagat cattaccaaa aatagcaggt acttctacca ttaaggtgaa    8880
atcatggatc agatattcct tacatttttc aaaactactg catgtttaaa acttcaacaa    8940
aaaaagagag aaagaactat actaagaaca tatattattc agatcagttt ctgccaattt    9000
cagtggttta ttgttcacaa aaaaatcttc aaaacaagta ttgactttca caaaatttaa    9060
atcataaaca ggcaaaccaa acagcacact gtagctatag ttgttatgtg attgtttttt    9120
aattgctgta ggatcctgtt ctttcagcag gtgaaaaata aaacgcagtt caaatttcat    9180
ggttttaatt ttcaactcag aagcactcaa aaatgcaaaa tgtgataatg ggcacttgtt    9240
taaaagaatt agtgtatcca gccttcactc cagctggtta aaaatgttgc acttatcagc    9300
aaccctacca ctttcatctg ctgaaaggac aaatgtgctt ggttttacta ttatgtaatc    9360
acaacttact ttctgcttgt agttgcttaa aattatgtat tttgtcttgg gctgcaattt    9420
gttttatgct tattttatta ttactgcagt agttgacttt gctgtatgga aaaataaagt    9480
gaaattgccc taataaaact tctctttctt aagtatattc gtgta                    9525
```

<210> 6023
<211> 2731
<212> DNA
<213> Homo sapiens

<400> 6023
```
attatttctt ccatgttatt gttttcagac cacattttgt tgcatatttg ctagtactaa     60
tcagtcaaag ggcaccattc ttttttttttt tttttgaaac caaagctgtc tcagaaatgg    120
ccaatttaac tttacagtaa caatagacag cacaacacaa actctctcaa tacagataaa    180
ctcattctta ctggagatat atatataata gatatatata aaattatttt aatgcattgt    240
agtgtaatat ttatgcatac tatactgtat aacatgttat tcaaaaggga ttgccatttc    300
tgagacacag taacaaaaaa atgaggaaat tattttgctt ctatttatag cctctgtcaa    360
aagtcaaaag actataaatg ctttgcaaaa atggtttcac gtttgcttaa atgcttcatc    420
acagtcacat tcaaaatagt gactctaaac aaagaagaaa gcagcactgt catcagatgc    480
atgataaacc aaaatatgaa aatgggaaat gtttaattaa cctagtaatt gggtgggtta    540
agtacatggg tgaattttat atgtgatttt tgttttgttt tgttttgttc agattaactg    600
cttatagcct tagaaagcct tttacaaaat taaaaaaaaa atagatgtgc attcagtttt    660
taagaatgga atcatccaaa ggaattcctt tttttgaggt ttggatgttg cagctagtaa    720
aggatatttt tgctctgttc agcagttcta aaaattgctg aagtaggggc caggtcactg    780
gtagttatag tatggaatgg gagaagtgaa agttcagtta tagaactttc catacttcca    840
```

                              2931

```
agtttactgc aagttttat  gcttgagaga gatgctttct aatataagac tgatgtgttg     900
attttactga ttgtactgta catctattaa agccttagat tattacatta cgggttggaa     960
cccataccaa tgtaatttca atcgtgttaa gaaagtaatg gtgacttcac atgttattgt    1020
agttagttac attatagaat attacttatt tttcttgtta aaatgtagtt tttcatttcc    1080
tacatttatt agattttcat ttttctatta acaattgaat accatttcag tttatagact    1140
tgttttatta gattttacca atgaattttt caaaatacaa aaaaaagtag tttttccttc    1200
ataacatact cagttttgaa ttacatgtag tgtcacatga atattcgtat tgttaactaa    1260
atgatttata ttttactgat ttaatattac agtgtaagaa tgtcagtcat tgttagttct    1320
tgtctagttt tcattaaaag aacaaagatc ttttatatgg atatcttata aatatataat    1380
cattgctaag taagaagtta agttgttgct atcgcaacaa tcctggcaga caattgagta    1440
atattttgat gatttatttt gtttgtaatt agttattata agaagatcta gatcctagat    1500
attagaataa aatttatttt ctactgtatc catttcaaat gttaaaatat tgtttaatat    1560
ttttgaaatc cctgagtatc aggccttgtt ataaataagc tgcataatca ataaatagaa    1620
caagggactt tttgttgata atccaaatac tcaaagttta cgtaatgaaa attatagcgt    1680
gtgtgcaaac tcttgagggt tgattatgct gcaatttagc atgttggaac gtctagggag    1740
aaggttgact ttttgcactt ctgtatatag tcaaaagaga gaaacctgta tattagtaag    1800
atcttatttt gaataaaacg tctttaatac aaggagtttt ggtaaggcta atacaatgac    1860
agactgagca aaatgccttg caaaagtggg cacagagtta gcactccata ccccttccaa    1920
acatggtgct ttgctttctt gtggcagctt ggagttggcc aggatttttt cagctgaaaa    1980
gatacgccat cctttcaaac cctcatgact gacaaaaact ccatggggcc aaatctgcct    2040
gaagatcatt accaaaaata gcaggtactt ctaccattaa ggtgaaatca tggatcagat    2100
attccttaca tttttcaaaa ctactgcatg tttaaaactt caacaaaaaa agagagaaag    2160
aactatacta agaacatata ttattcagat cagtttctgc caatttcagt ggtttattgt    2220
tcacaaaaaa atcttcaaaa caagtattga ctttcacaaa atttaaatca taaacaggca    2280
aaccaaacag cacactgtag ctatagttgt tatgtgattg ttttttaatt gctgtaggat    2340
cctgttcttt cagcaggtga aaaataaaac gcagctcaaa tttcatggtt ttaattttca    2400
actcagaagc actcaaaaat gcaaatgtg  ataatgggca cttgtttaaa agaattaggg    2460
tatccagcct tcactccagc tggttaaaaa tgttgcactt atcagcaacc ctaccacttt    2520
catctgctga aaggacaaat gtgcttggtt ttactattat gtaatcacaa cttactttct    2580
gcttgtagtt gcttaaactt atgtattttg tcttgggctg caatttgttt tatgcttatt    2640
ttattattac tgcagtagtt gactttgctg tatggaaaaa taaagtgaaa ttgccctaat    2700
aaaacttctc tttcttaagt atattcgtgt a                                   2731


<210> 6024
<211> 12390
<212> DNA
<213> Homo sapiens

<400> 6024
cacatttctc agaagcacac cattctgctc tgcaaatatc tttgtaggag aaattggaaa      60
ttgacaaata cattcactta aattttgctt tgtgctgaaa attgaggaaa aatttaaatt     120
ggccatttgc acattattag tagtaaatca acccatgtaa agatggaaac tatggtcatt     180
tcaaaagtga ttttcatttt tggtaagtgg gtcctacagc attatgtcct catatttgtg     240
agttattgca ccctggctag tattttcatt gctgccttat gtttatttgc tgcaaatccc     300
tctcaaaact gtgtgcattg gttataatgc taatgaggaa gataattcaa actaaaattc     360
aaatcataat agctttagga ttttagagag atagtataag gttaactcat tttcagcatg     420
tgcagactta attatgcatg ggatgaaata cagtaggcaa gtctcagcct aataataaat     480
aattgaaaaa tataacctgt acaatattta aactggcttt aatattactt aattatcaca     540
ttattctttt tcattcatca tttcttttcc aattctctca ccctaccatt aagacagtaa     600
tgattttata agatgtagat ccggtattaa gttttgcttg ctctactgtc tcaaattatt     660
ataacttctt tgttattact ggcttgtttc tgtttgtctt tcacaagtct ttgactcagt     720
agtagtagca aatgacagag atcttcaagt gtcttaatgc ttgtcaatat aatattattc     780
cacttgatag gatgtgtccc cagatacatt acagagttta atcgttgatc actctgccca     840
cagtctaatt gtgataacaa actaatcgca gctgttacag agatgccagt taagtaatcc     900
gtgtttcagc tgagtttctc aatggcagct ttattttata gggccatctc tgacgagatt     960
catttggcag atattttct  aacaaatgtt cgtcccagat gctgctagta tttaaacagg    1020
atatgctaag atttagatag aaatataaaa tccttggata ttttaaaacc tagaattcta    1080
aaataatccc atagaaagaa cagtagttct gcatatggga aagtgccttg tacttggtaa    1140
aataagttaa attttcaata tttacatgtc aaagagaaca aggactatct atatatgcaa    1200
catttatttt tgcttatcat ggttgaacaa ttgtcagcat cagtgctaac accccatatg    1260
```

```
tgatgtatgt atttttcactc tctcccactc aaggtttta ttgaactcta attagcagtt   1320
tcttgcgtgt gaaatttgt agaacatttg ctactcccag aagtcttgaa ggtctaaacc   1380
agcaatgaaa accactctga tttcctagat actgtgaagt aaaccaattt gatacttata   1440
agaaattata ttccccctta atgctttttcc tacatttaa tttcaaacta aggaaaggca   1500
caaatttcac ttttttatgt ataatttatt gcttggcatc cctccaaata caaatcctgt   1560
atgaataatt acaacccctt tcatgtttat atggttgctg ctacaatgaa caggaaaata   1620
aagcaaaagg aatgaaaatg aatgtttggg tttcattata ttgttaagtc agtttttgtac   1680
attgaattat ttagtatttta ataataaata tctttagtaa gttaatatgt gcctgatata   1740
aagaaaatgt taaggcattc ataagttaaa gtcagaaata gcaaaacgac cagatggtta   1800
gtaatcagat taaaacaaaa cagattacaa tattattttt aaaagaatta agtggattta   1860
aattacttcc aaaatacttt tgtttatagg caacaattaa gagaaacaaa gtgtaccagc   1920
acacagttaa actggctttt attcttcact tgagactagt tctaattgat cactgtgcta   1980
ttgtatgatt tgattgtgct gacagttaca tgccactgtt cccataataa caatttttct   2040
tctttgttca aatgaatttt ctaattacac gtgtgatggg atgtttttaat tcttttccct   2100
tttcaaatcc accttcctgt tgcaatgcat gatgggcagg ctcaatattg tgcatgacac   2160
ccgctacaag tgttggtagg tgccagcttt gtttcttgat tatcttaaac ctatggtgta   2220
cctcacagcc cctcaaaatc cactgctaag tttaacttat atctattggg caagtccatt   2280
tcccttttac taacacttgt caattaaatg ccattttctg tttaattgac atggactcac   2340
ataagtgttt tctttacaca caacagtttc ctttagtcac ctttggtgga ttttgattgg   2400
actatgagtt ctggtgtgta aaaaaaatct atttcataaa agtaatatac tgtatatttt   2460
tataatagta aatgagaaaa aaatactttc attcaaacag ataactgtat atatgaagta   2520
aatacttgta ttttgactta gattttgaat gtctgactat gaacactata taaaattctt   2580
gttttgact tagcatatta agcctgtttg tgtcaatttt cttgatttga tggtaacaag   2640
ctttttttccc cctttttttt ctctttcatc cctcctcccc ttctctcctt ggaatgttgt   2700
cctgctttgc gctgtgattg catgtcactc gctggtgatg atgtcctgtc acatggctta   2760
ttgctgtgat aaataccatg cccaattatc tcttccatgt tgccatggtt tccatattgc   2820
tacactcttc tgtatgttcg cttatatgat tttccctccg aaagttccca tggtgcacgg   2880
tgctacgcca gccactgtgt ccgcagcaac aacatctgcc acaagtgttc ccttcgctgc   2940
aacagccaca gccaaccagg tttgctaatt tacagctttg tttcttaaaa aacaactcta   3000
ataggggctca atccaacagc ccttacgcac gtggatttcc cattgaggtc agtgggaatc   3060
gtgtgtacgt gagggctgta gagggtgctt taataagcat ggggtttcaa agatacctct   3120
tgttggccta cacattctct ctatgatgag cagcagaatg cttttatgcc atttataagt   3180
gctccaaagt cgtcgcagct ccatttctga agctactaaa atgatattta cacaagcaat   3240
tctcaattgg tttcaaccaa tcgtgcaggt attttgacca atcaaaaata gaggccattt   3300
taaggttttt atttaaaata tttggtatat acagtttctt agttcttgcc taaatgatta   3360
atagaaagta aaatacttaa atgtattacg tatgccacaa atgaccactc ttgtaaataa   3420
gtttgttata aattcattat aatctgaatc atttaatgag cagattcaaa ataaattgtt   3480
tgcatgtagc atttctaagc ttttattctc aatgctttca gtgaaagaaa aatcctaagc   3540
gctcttattt ttataattac cctgcataaa tgttggagat ttatgaagga aaagaaaga   3600
aattaagtat ggcaaattga cagtcattct gtattccatg caaatttatt gcaggatact   3660
tttaagtgaa agggatttgt ttcataaatt taaattttat gatatacaat aataactatt   3720
taaaaataaa tgatgatttta aaatatttaa aatttaaaaa ttggacattt attcacccag   3780
cattttctga ttctacttaa aaatattttc tagaaaatac tggttgattt caagtttcat   3840
ttatgtagat ttgggcttca atagagttga tagtgtatga aaaacataga gccaagccac   3900
atttcagata atccacagag gaagattaaa ggtagccaaa tgaatctcaa aagaatgagt   3960
gtcagatgaa aatgaacatg ttccccttg ggaagggaag accaattaag acatagattt   4020
gttgttatta ctgtgaggag tagccaccct tgttctataa tacatcacgt actgttgatg   4080
aagaacattc agctattagt acagccatta aaaactttca aaatcagaac acaaaaatga   4140
atttaacgtt tcagtcaagc tttaaacatt tcttggcaaa gaatcattaa ttttttcagaa   4200
gcttgtcaaa atacccctgg tttacatgaa cacgtcagac tcatttacag aaatgctaga   4260
ttgtgcatat gtggcatgtt aataagtaac ctttggtaga actattatga tggattcaat   4320
tcaatccatc tatggtgcaa atcaatgata aagaactctc atgcgtctac catgtatgac   4380
tgtagaattg ctggtgtaag cagaactata gcagagcaaa tttcaacatg cccttggcca   4440
cctgggttgt aggggacact ttactttttg cattgtgctg tgaccatttc atgcataatc   4500
ttggatcttc atactatttg acaaccaaaa gaaagaaaag ggaatggata tatatataca   4560
cacatatatt atatctacat atacatacat atgtatatgc ctacagtaca ttagcaatgc   4620
tggaaatagc tgatgccaca aaatgcagcc tgcatgcatg cagaagttta tagcctggcc   4680
cttcatctgc atcgattggt gttgaaggtc cttggtatgt ttcgacagcc ccatccttga   4740
tgcttctaca ctgttgggtg caacatcctg tcctgcagca gcaggaaaaa tggtatgaga   4800
agcttcatta tgcttggagc acattttcgt gccatttgcc aatgctgtaa aattgtgtaa   4860
aaatgtcagc tgagaactgg aaataaaaca gggacatatt aatatacacg ccagactgtg   4920
```

2933

```
gattgtagta tgttgaatta gcctaagatg tctaaattga aagaacagca acaaaatgcc   4980
tttgtgtatc tgatttcatt attctcccaa caacattgct gaaatgggat tagtatcatt   5040
ttatagaaga gacttaagca tagagtaatg agttgctttg ctcagggtca cacagccagt   5100
aaatggatct ctggggctag cacccgtgtc atcagtcctc tgacagtctc aatccattgt   5160
gctgcctctc tcaggttagc aggcattaat ttcaggttga agaatcaagc tacaaatccg   5220
aagttcttaa cttttgggaac tattgaaata agtcaactct atattggttt cttattgtat   5280
tttctctcaa gttctctaat tctcttgccc atttaaaata caataaaagg tgtcatcagg   5340
attcagaaat atgttctgaa gtaaacttag gctcttacct agttcttttg aattactgct   5400
ttataattct tacctggtat ttttaatttg gaaaaaaaaa gttagacacc ctaatttgaa   5460
cgaaaatgtt agaaatttgg ttgcacaaaa ataggcaaga catttcctta tctgatttct   5520
ggatgattac taagtaactg aaaccacggg ggtgcgtgtg tgtgtgtgtg tgtaggccaa   5580
caaaaagggc ttctttcaat tactgctctg catgaatttt tgatagtttt acttatttcc   5640
taaaagctgg taacatttat agaatagtat ttaacatgaa gattttaaag ttagttgcta   5700
ctttggcatt taagtttaca ttaacttact gttatgttga ccagataagg actatcacct   5760
cacagctgaa tttcactttt ctttaaaaat ttaatattaa aatgtttttca tctcttaatt   5820
gttggcttgc ttgcatggat cattcattaa ataatttttt atttgctaga tacccataat   5880
atctgccgaa catctgacta gccacaagta tgttacccag atgtagaatt ttcatcacta   5940
aacagtaagt tcattatgta atatatagtt gcatatttgt ggtggttttt tttaagatag   6000
caattgtata gtgcacttaa aattttgcga aatctctgag aaaatatata cagatcacat   6060
tttttatctta aatgggtgtg aggaatttta tcagcatct ttataacaaa tatgttaata   6120
tcacttaaat atacaaagta ctaagagaaa ataaattttt taaatttctg attagagata   6180
aacacagcat aaagaaaatg tatgaccaaa aagtaattag aaggtgtaga tcaagggttg   6240
gcaaactttc ttatagggtc agacagtaag tattttttgct gtgtgggccg tatcgtttct   6300
gttgcagcta ctctcctctg ccattgtatc atgaaagcag ccagagacca catgtaaaca   6360
aatgggtgta gctgtgttcc agtaaaactt tatttacaaa aacaggcagt acatcacatc   6420
tggcccacag gcagtagttt ggctgacctc tggtgtagat tatcacttt tttttttttt   6480
ttcattcttt ggctaaacct taaatgggac catgtactta cttcatccca tgcaccacca   6540
tacacagggg cattagaatg taatgagttt ggctaagcgt gggtggctca cacttgtaat   6600
ccaagcactt tgggaggcca aggtgggtgg attgcttgag cccaggaatt taagactagc   6660
ctaggcaaca tggtcaaacc ctgtcctaca aaaaatacaa aaaaatcagc tgggtatggt   6720
agcacactct gtagttccag ctactaggga ggctaaagtg ggaggatcac ttgagcccag   6780
gaggttgagg ctgcaatgag ctgtgattgc gccactgcac tccagcctgg gcaacagagc   6840
aagacctgtc tcaaaaaaaa aaaaatgtag tgagtctgac tttaaataaa tatatacaca   6900
taatcaaata tatgtgtaca cacaaatcta catattcaaa tgaatcttag ttactttaaa   6960
gtagttacct cagaggatca tataattctg aaaatgttgc cattgccaca tttttaaaaat   7020
ggtttgaaag tcttgtattt tgtctttaaa aacactgtgg tggtgggggtc ggggggagggg   7080
ggagggatag cattgggaga tatacctaat gctagatgac acgttagtgg gtgcagcgca   7140
ccagcatggc acatgtatac atatgtaact aacctgcaca atgtgcacat gtaccctaaa   7200
acttaaagta taaaaaaaaa aacaaaaaaa aaaaccactg tcttaaatac ttaaaaaggt   7260
gtccattttt catccatagg aatatgtttt gtccagtatg catgcattca agttataaca   7320
tgtgctcaga tgcttgttat ttatttttat atttagaaag agacattaca tttaaaactg   7380
aaattggtta agatgggtga ccattctttg ttgcttcctt tatttattta ttaacatatt   7440
tacaaatgag ttttttggtgc tactttgtgt tagttaccat ggcaaggaga taaaggtaaa   7500
tagataataa gataaagatg taaggaattt caggataata tagtaaaata agagaggttt   7560
gaagaaattt ctcttagagc aaagatgaag gagcagctgt tcccaacagg atccgtaaac   7620
aaatgaatgt ggacaatgaa ggtgttgttc taaagagaat ggaggtgtaa aggccttgta   7680
aaagaaggac agtgtgccaa gtcaggaaac gatgatggct gagaaccaac tcagaaaccc   7740
ttgtgatgtt aatctgtagc aaagctggac aaagtcaaag cccatgcagg agaacaggca   7800
gaattcaata gccatttaag aaagaaatga gaggctcaac tggagaagta ctgccaaaga   7860
tatgctgcaa tcgtgaatta ttaaaattga tttttgtcta tttcataagt tttctcaaag   7920
cagttctgat aaaaaggttc agattctgaa caatagccac atttgtagaa gaagaggcat   7980
tactttgcag tgttgtaggt ttagaagaag aggttttttt gacatgccag aaaaatctgt   8040
ttcaagctct tatagtcaat taggtgtgtt tggtatgtat atatttaact aaaattctgtt   8100
tcttagcaat aatccaggtt gaaaaaaatt tctaaaaata attagcaaac cagtagtttt   8160
gtctgtattg aagctaagct tttaatgttc tgttcattta acaaatgatt gctcatcttc   8220
atgaggagtt gcaacattta aactggtttt tgagtcacta gattatgatt tctttcattt   8280
tcaaggttgt attgtgaagc atactttaa tatatgtaaa tattcgctgc tgagaacaaa   8340
tttcatgtaa aaactggaac tgttaatcca caagtacatt gtaatgtcta ttacagctta   8400
attcatgagt aataattctg taattcaaaa agaatgattt ttattttctt agttttaggt   8460
gaaaaaagtt caacaaactg aattacccaa agccatcact taaagtatca ttcttttttt   8520
ttcaaacatg cattatgcta atcaagcacc caaaaagaat aaatcttgtt taatagaaca   8580
```

2934

```
tattacatga attttaattt tgtagaccag acctttactc ttgaaacctt attaaacttc   8640
agaaaagaag tttaaatttt gccctacaac aattgtgcta aaaaagagct ctgtatatta   8700
ggcccctga ttctgcaaat gtattttata ctttagttt aggattggta aattttggag     8760
cacattctac agttttatta aattgtacgt gttatttcat tcgtgtagag atgatagaca   8820
aattttgatc tgtctactct tgtaaaatgg ttttgtttt tatatgaaga tataatgtaa    8880
atatactggt taatcaaaaa gaaaattttc atattaaatg tatattagaa actgctttta   8940
gatattacct gttctaacaa agcttatctc ttttccctt gtagatcatg ctaaagagga    9000
aaggacagtg tgcttggtta gagtaaagga cgaggtcatt agccatattg tatatatcgt   9060
caagcaacac acacaaaagt tcctcagcca caagacatcc acatattgca tgttaaccag   9120
aagaaaagac aacattttcc ggaaatccac tgcacactgt tgcctataca ctttgtacat   9180
ttaattgata tttgtgctga ggtgatattc ctgtctaaaa gaacaacatt gtctttcttt   9240
tctagcacag agttatgcat tcaaagatgc atacctagtt agtttcctat atattcatgc   9300
catcttgaaa agacagacta tggtgtaacc atgattctat tatgtattgg tacgtctgta   9360
gaccaagata taatttttta aaaataagtt tatttctttc aaggtttaca aataacaaag   9420
gtgcaccttg tatttaaaat tgccattata gatgagagcg tgcatgcaca gtcatttttg   9480
tttaagagta atatttttaa tgtaatagat tgtaagacgt ggtgagggag ggatctgaca   9540
gagatgaatg tgccaagcaa aaccacaact gtgtatattt taaagcacat catggcttta   9600
agtaccatgt tgttaaggat tctcatgaag tgccatagac tgtacatcaa attagagtat   9660
tatttcttca gtgttattgt tttcagagcc acattttgtt gcatatttgc tagtactaat   9720
cagtcaaagg gcaccattct tttttttttt ttttgaaacc aaagctgtct cagaaatggc   9780
caatttaact ttacagtaac aatagacagc acaacacaaa ctctctcaat acagataaac   9840
tcacacatac tggagatata tatataatag atatatataa aattatttta atgcattgta   9900
gtgtaatatt tatgcatact atactgtata acatgttatt caaaagggat tgccatttct   9960
gagacacagt aacaaaaaaa tgaggaaatt attttgcttc tatttatagc ctctgtcaaa   10020
agtcaaaaga ctataaatgc tttgcaaaaa tggtttcacg tttgcttaaa tgcttcatca   10080
cagtcacatt caaaatagtg actctaaaca aagaagaaag cagcactgtc atcagatgca   10140
tgataaacca aaatatgaaa atgggaaatg tttaattaac ctagtaattg ggtgggttaa   10200
gtacatgggt gaattttata tgtgattttt gttttgtttt gttttgttca gattaactgc   10260
ttatagcctt agaaagcctt ttacaaaatt aaaaaaaaa tagatgtgca ttcagttttt    10320
aagaatggaa tcatccaaag gaattccttt ttttgaggtt tggatgttgc agctagtaaa   10380
ggatatttt gctctgttca gcagttctaa aaattgctga agtaggggcc aggtcactgg    10440
tagttatagt atggaatggg agaagtgaaa gttcagttat agaactttcc atacttccaa   10500
gtttactgca agttttatg cttgagagag atgctttcta atataagact gatgtgttga    10560
ttttactgat tgtactgtac atctattaaa gccttagatt attacattac gggttggaac   10620
ccataccaat gtaatttcaa tcgtgttaag aaagtaatgg tgacttcaca tgttattgta   10680
gttagttaca ttatagaata ttacttattt ttcttgttaa aatgtagttt ttcatttcct   10740
acattatta gattttcatt ttctattaac aattgaatac catttcagtt tatagacttg    10800
ttttattaga ttttaccaat gaattttca aaatacaaaa aaaagtagtt tttccttcat    10860
aacatactca gttttgaatt acatgtagtg tcacatgaat attcgtattg ttaactaaat   10920
gatttatatt ttactgattt aatattacag tgtaagaatg tcagtcattg ttagttcttg   10980
tctagttttc attaaaagaa caaagatctt ttatatggat atcttataaa tatataatca   11040
ttgctaagta agaagttaag ttgttgctat cgcaacaatc ctggcagaca attgagtaat   11100
attttgatga tttatttgt ttgtaattag ttattataag aagatctaga tcctagatat    11160
tagaataaaa tttatttct actgtatcca tttcaaatgt taaaatattg tttaatattt    11220
ttgaaatccc tgagtatcag gccttgttat aaataagctg cataatcaat aaatagaaca   11280
agggactttt tgttgataat ccaaatactc aaagtttacg taatgaaaat tatagcgtgt   11340
gtgcaaactc ttgagggttg attatgctgc aatttagcat gttggaacgt ctaggagaa    11400
ggttgacttt ttgcacttct gtatatagtc aaaagagaga aacctgtata atagtaagat   11460
cttattttga ataaaaacgt ctataattac aaggagtttt gttaaggcta atacaatgac   11520
agactgagca aaattgcttg caaaagtggc acagagttag cactccatac cccttcaaac   11580
atgttgcttt gctttcttgt ggacagcttg tagtttgcca ggatttttc agctggaaag    11640
atacgccatc ctttcaaacc ctcatgactg acaaaaactc catgggcca aatctgcctg     11700
aagatcatta ccaaaaatag caggtacttc taccattaag gtgaaatcat ggatcagata   11760
ttccttacat ttttcaaaac tactgcatgt ttaaaacttc aacaaaaaaa gagagaaaga   11820
actatactaa gaacatatat tattcagatc agtttctgcc aatttcagtg gtttattgtt   11880
cacaaaaaaa tcttcaaaac aagtattgac tttcacaaaa tttaaatcat aaacaggcaa   11940
accaaacagc acactgtagc tatagttgtt atgtgattgt tttttaattg ctgtaggatc   12000
ctgttctttc agcaggtgaa aaataaaacg cagttcaaat ttcatggttt taattttcaa   12060
ctcagaagca ctcaaaaatg caaaatgtga taatgggcac ttgtttaaaa gaattagtgt   12120
atccagcctt cactccagct ggttaaaaat gttgcactta tcagcaaccc taccactttc   12180
atctgctgaa aggacaaatg tgcttggttt tactattatg taatcacaac ttactttctg   12240
```

```
cttgtagttg cttaaaatta tgtattttgt cttgggctgc aatttgtttt atgcttattt    12300
tattattact gcagtagttg actttgctgt atggaaaaat aaagtgaaat tgccctaata    12360
aaacttctct ttcttaagta tattcgtgta                                      12390


<210> 6025
<211> 392
<212> DNA
<213> Homo sapiens

<400> 6025
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt     60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga    120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa    180
tgggactctg ttagaagtca ttcgtttttc atttggagaa caaaatcgtt tgctagagct    240
attacttcat cacataccct tggtactcat ggaatttaaa ctttgaaatg atactaaagg    300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc    360
tttcatacag gaagtagtca ctaaagcact gg                                  392


<210> 6026
<211> 2533
<212> DNA
<213> Homo sapiens

<400> 6026
cacatttctc agaagcacac cattctgctc tgcaaatatc tttgtaggag aaattggaaa     60
ttgacaaata cattcactta aattttgctt tgtgctgaaa attgaggaaa aatttaaatt    120
ggccatttgc acattattag tagtaaatca acccatgtaa agatggaaac tatggtcatt    180
tcaaaagtga ttttcatttt tggtaagtgg gtcctacagc attatgtcct catatttgtg    240
agttattgca ccctggctag tattttcatt gctgccttat gtttatttgc tgcaaatccc    300
tctcaaaact gtgtgcattg gttataatgc taatgaggaa gataattcaa actaaaattc    360
aaatcataat agctttagga ttttagagag atagtataag gttaactcat tttcagcatg    420
tgcagactta attatgcatg ggatgaaata cagtaggcaa gtctcagcct aataataaat    480
aattgaaaaa tataacctgt acaatattta aactggcttt aatattactt aattatcaca    540
ttattctttt tcattcatca tttcttttcc aattctctca ccctaccatt aagacagtaa    600
tgattttata agatgtagat ccggtattaa gttttgcttg ctctactgtc tcaaattatt    660
ataacttctt tgttattact ggcttgtttc tgtttgtctt tcacaagtct ttgactcagt    720
agtagtagca aatgacagag atcttcaagt gtcttaatgc ttgtcaatat aatattattc    780
cacttgatag gatgtgtccc cagatacatt acagagttta atcgttgatc actctgccca    840
cagtctaatt gtgataacaa actaatcgca gctgttacag agatgccagt taagtaatcc    900
gtgtttcagc tgagtttctc aatggcagct ttattttata gggccatctc tgacgagatt    960
catttggcag atattttct aacaaatgtt cgtcccagat gctgctagta tttaaacagg   1020
atatgctaag atttagatag aaatataaaa tccttggata ttttaaaacc tagaattcta   1080
aaataatccc atagaaagaa cagtagttct gcatatggga aagtgccttg tacttggtaa   1140
aataagttaa atttcaata tttacatgtc aaagagaaca aggactatct atatatgcaa   1200
catttatttt tgcttatcat ggttgaacaa ttgtcagcat cagtgctaac accccatatg   1260
tgatgtatgt attttcactc tctcccactc aaggttttta ttgaactcta attagcagtt   1320
tcttgcgtgt gaaattttgt agaacatttg ctactcccag aagtcttgaa ggtctaaacc   1380
agcaatgaaa accactctga ttcctagat actgtgaagt aaaccaattt gatacttata   1440
agaaattata ttcccccttа atgcttttcc tacattttaa tttcaaacta aggaaaggca   1500
caaatttcac tttttatgt ataatttatt gcttggcatc cctccaaata caaatcctgt   1560
atgaataatt acaacccctt tcatgtttat atggttgctg ctacaatgaa caggaaaata   1620
aagcaaaagg aatgaaaatg aatgtttggg tttcattata ttgttaagtc agttttgtac   1680
attgaattat ttagtattta ataataaata tctttagtaa gttaatatgt gcctgatata   1740
aagaaaatgt taaggcattc ataagttaaa gtcagaaata gcaaaacgac cagatggtta   1800
gtaatcagat taaaacaaaa caaattacaa tattattttt aaaagaatta agtggattta   1860
aattacttcc aaaatacttt tgtttatagg caacaattaa gagaaacaaa gtgtaccagc   1920
acacagttaa actggctttt attcttcact tgagactagt tctaattgat cactgtgcta   1980
ttgtatgatt tgattgtgct gacagttaca tgccactgtt cccataataa caattttct   2040
tctttgttca aatgaatttt ctaattacac gtgtgatggg atgtttaat tctttttccct   2100
```

2936

```
tttcaaatcc accttcctgt tgcaatgcat gatgggcagg ctcaatattg tgcatgacac    2160
ccgctacaag tgttggtagg tgccagcttt gtttcttgat tatcttaaac ctatggtgta    2220
cctcacagcc cctcaaaatc cactgctaag tttaacttat atctattggg caagtccatt    2280
tccctttttac taacacttgt caattaaatg ccattttctg tttaattgac atggactcac    2340
ataagtgttt tctttacaca caacagtttc ctttagtcac ctttggtgga ttttgattgg    2400
actatgagtt ctggtgtgta aaaaaaatct atttcataaa agtaatatac tgtatatttt    2460
tataatagta aatgagaaaa aaatactttc attcaaacag ataactgtat atatgaagta    2520
aatacttgta ttt                                                       2533


<210> 6027
<211> 392
<212> DNA
<213> Homo sapiens


<400> 6027
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt     60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga    120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa    180
tgggactctg ttagaagtca ttcgtttttc atttggagaa caaaatcgtt tgctagagct    240
attacttcat cacatacct tggtactcat ggaatttaaa ctttgaaatg atactaaagg     300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc    360
tttcatacag gaagtagtca ctaaagcact gg                                  392


<210> 6028
<211> 2529
<212> DNA
<213> Homo sapiens


<400> 6028
cacatttctc agaagcacac cattctgctc tgcaaatatc tttgtaggag aaattggaaa     60
ttgacaaata cattcactta aattttgctt tgtgctgaaa attgaggaaa aatttaaatt    120
ggccatttgc acattattag tagtaaatca acccatgtaa agatggaaac tatggtcatt    180
tcaaaagtga tttttcatttt tggtaagtgg gtcctacagc attatgtcct catatttgtg    240
agttattgca ccctggctag tattttcatt gctgccttat gtttatttgc tgcaaatccc    300
tctcaaaact gtgtgcattg gttataatgc taatgaggaa gataattcaa actaaaattc    360
aaatcataat agctttagga ttttagagag atagtataag gttaactcat tttcagcatg    420
tgcagactta attatgcatg ggatgaaata cagtaggcaa gtctcagcct aataataaat    480
aattgaaaaa tataacctgt acaatattta aactggcttt aatattactt aattatcaca    540
ttattctttt tcattcatca tttcttttcc aattctctca ccctaccatt aagacagtaa    600
tgattttata agatgtagat ccggtattaa gttttgcttg ctctactgtc tcaaattatt    660
ataacttctt tgttattact ggcttgtttc tgtttgtctt tcacaagtct ttgactcagt    720
agtagtagca aatgacagag atcttcaagt gtcttaatgc ttgtcaatat aatattattc    780
cacttgatag gatgtgtccc cagatacatt acagagttta atcgttgatc actctgccca    840
cagtctaatt gtgataacaa actaatcgca gctgttacag agatgccagt taagtaatcc    900
gtgtttcagc tgagtttctc aatggcagct ttattttata gggccatctc tgacgagatt    960
catttggcag atatttttct aacaaatgtt cgtcccagat gctgctagta tttaaacagg   1020
atatgctaag atttagatag aaatataaaa tccttggata tttaaaacct agaattgtta   1080
gataatccca tagaaagtac agtagttctg catatgggaa agtgccttgt acttggtaaa   1140
ataagttaaa ttttcaatat ttacatgtca aagagaacaa ggactatcta tatatgcaac   1200
atttattttt gcttatcatg gttgaacaat tgtcagcatc agtgctaaca ccccatatgt   1260
gatgtatgta ttttcactct ctcccactca aggtttttat tgaactctaa ttagcagttt   1320
cttgcgtgtg aaattttgta gaacatttgc tactcccaga agtcttgaag gtctaaacca   1380
gcaatgaaaa ccactctgat ttcctagata ctgtgaagta aaccaatttg atacttataa   1440
gaaattatat tcccccttaa tgcttttcct acattttaat ttcaaactaa ggaaaggcac   1500
aaatttcact tttttatgta taatttattg cttggcatcc ctccaaatac aaatcctgta   1560
tgaataatta caaccccttt catgtttata tggttgctgc tacaatgaac aggaaaataa   1620
agcaaaagga atgaaaatga atgtttgggt ttcattatat tgttaagtca gtttttgtaca  1680
ttgaattatt tagtatttaa taataaatat ctttagtaag ttaatatgtg cctgatataa   1740
agaaaatgtt aaggcattca taagttaaag tcagaaatag caaacgacca gatgttagta   1800
```

```
tcagattaaa acaaaacaga ttcaatatttt ttttttaaaa gaattaagtg gatttaaatt    1860
acttccaaaa tacttttgtt tataggcaac aattaagaga aacaaagtgt accagcacac    1920
agttaaactg gcttttattc ttcacttgag actagttcta attgatcact gtgctattgt    1980
atgatttgat tgtgctgaca gttacatgcc actgttccca taataacaat ttttcttctt    2040
tgttcaaatg aattttctaa ttacacgtgt gatgggatgt tttaattctt ttccttttc    2100
aaatccacct tcctgttgca atgcatgatg ggcaggctca atattgtgca tgacacccgc    2160
tacaagtgtt ggtaggtgcc agctttgttt cttgattatc ttaaacctat ggtgtacctc    2220
acagcccctc aaaatccact gctaagttta acttatatct attgggcaag tccatttccc    2280
ttttactaac acttgtcaat taaatgccat tttctgttta attgacatgg actcacataa    2340
gtgttttctt tacacacaac agtttccttt agtcaccttt ggtggatttt gattggacta    2400
tgagttctgg tgtgtaaaaa aaatctattt cataaaagta atatactgta tattttata    2460
atagtaaatg agaaaaaaat actttcattc aaacagataa ctgtatatat gaagtaaata    2520
cttgtattt                                                          2529
```

<210> 6029
<211> 392
<212> DNA
<213> Homo sapiens

<400> 6029
```
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt      60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga     120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa     180
tgggactctg ttagaagtca ttcgttttttc atttggagaa caaaatcgtt tgctagagct     240
attacttcat cacatacct tggtactcat ggaatttaaa ctttgaaatg atactaaagg     300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc     360
tttcatacag gaagtagtca ctaaagcact gg                                    392
```

<210> 6030
<211> 392
<212> DNA
<213> Homo sapiens

<400> 6030
```
tagtgatatt ttggaaatct tttcattgaa aaaatgcata actaaaagtc cttgtaactt      60
ttgcaatact ttaaatgaaa ctgtattttg ttaatcacaa cagcatatac atgcatctga     120
aaaattattt tcagaagagt tattattaca acgcccacta ggagtcctca gctcacagaa     180
tgggactctg ttagaagtca ttcgttttttc atttggagaa caaaatcgtt tgctagagct     240
attacttcat cacatacct tggtactcat ggaatttaaa ctttgaaatg atactaaagg     300
tcagtgatgt agcaatctat tatttcactg agacatactt ttgaatgcct gtatgaatgc     360
tttcatacag gaagtagtca ctaaagcact gg                                    392
```

<210> 6031
<211> 1710
<212> DNA
<213> Homo sapiens

<400> 6031
```
aagcatcatt caaccataca tccatccatc ctcctatcat tctgttctcc cctttccttt      60
cctctctta tcctttttttc cttcctccct tcctctgtcc ttcagttttc catccatcta     120
ttcatccccc catttatcta tccacccatc tttccattta ttcagtcaat aaacattgat     180
tgtatgccac atggtatacc agtatttatg tgaaggattg caaactgata gctcaagggt     240
aaaatctagt atctagaaat attttttgttt aagagtgttt aaatgaaaac taaatgtaaa     300
tcctttagat aggacacata ctgtacccct cagttccaaa cgctacaatt ccctattgcc     360
ttaggccagg ttgtttcaga tattttgttc aaaagagcta cgtttttattg aatggttgct     420
cttgttccct gctgcactga gtgctttgcc tacattatct cattttttttt cacaacgccc     480
agaaggttgg cattaatatt ttcattttac gaatgagtaa tttggagcct agtaaggtac     540
agtgatttgt cccaagttaa atggctttttg taaggtttag atttaagtac aacttgaact     600
```
```

```
caagtcaggc tgacttggtt agtctctcaa tatctattac acgaagacct taaaaatgat    660
ttgggagagt ggaagtagcc cttactgaac acctaactcc atggtgtttc acaccttcca    720
cctcatttaa agataaatat aagtattagg ttaaattcat attgaagttt tgtctttttca   780
aatttcgata tatacttgtt ttaaccttcc cctttcagga ccagattgat tatttgtaga    840
tattatgcat aatttaggat ctatttatgt tatatatatg agttttcact catgaaatta    900
cggcgtgtaa gaaataccac tttcctttac accatttctt ttttcgttga aattaagtct    960
agctctgaac tgtgatctct atctccctgg gttgagagaa ataacaggca ttactgggaa   1020
tccaggacta catgccccag ctccctctct ttcctgacct tacctcaatg tgaggtcctg   1080
tacagtctag tattctcaga caggctatgc attcttcatg cttcagtcac cgctgctcac   1140
tgctgatgtg atcattgtct atgcttgcaa gagctcttaa gacaggtact ccaggggttc   1200
tgtgcttgcc ttggatatag gcttccttgt ctatgccctc caggctccca tgcccttgag   1260
gacctgatgt ctgcagggct attgtgaaag aacaggctac ctacccagct acctgtggag   1320
ctgcacactg cctgccactt caatcttgag gaattttttt ctctgccctc catcaccatt   1380
tttgcttacc taccatcttc agaatcacac ctcttgtctc cctctctagc atatctccct   1440
caatcagtgt tggcttatga gttttaacag ttctgaaaat acatttactt taaacaactt   1500
ctattttggc ttgtattaca actctaccaa gaataaggca acgaaaggcc aggaaactct   1560
taggtggtgg tgtaggtcta agggcagggg taggcagggt tgtgtttatg caaagaagag   1620
aaaaagattt gtcacattta gtatcattaa tacatataat catttataat tatgtatatt   1680
                                                                    1680
aataaattac ttataattaa taaaaataaa                                    1710


<210> 6032
<211> 17495
<212> DNA
<213> Homo sapiens


<400> 6032
atcccaggcc ggggaccgca tcttctttgt gtctgctaag gaggtgctca acgccaggat     60
tcagaaagcc cagggcatgc ctgaaggagg taatgatgag aacagatgtc ctcctttttct    120
ctgatgtttg agacattttg tctcgtgctg aggagtctgt cagtagaaaa tccttctgag    180
aaggggatgc tgagaagagc agagaggctc ttgctcttta gccagtggct tggtttctgg    240
ggatttcatc gtttttcctct gctgccaagt tgtttctgga ctaatgcagt acaatcctcc    300
tagggggcgc tctcgcagaa ggctttcaag tgaggatgtt tgagtttcag aattttgaga    360
ggagatttga ggtgagtcct ctgattctgg tatctggcga ttctgtgcct ccccagctcc    420
cattggctgt gtccctggca gtgaaaacca gagtctggcc cttggttgta ggcccctggt    480
ggccccacc tccctccgtg cctctgtgtg ttccaggagt gcatctccca gtctgcagtg    540
aagaccaagt ttgagcagca cacggtccgg gccaagcaga ttgcagaggc ggttcgactc    600
atcatggact ccctgcacat ggcggctcgg gagcagcagt aagagtccaa gactgcagat    660
aggtggagag agctgccgag acaagggtgc tccacccctg ccttgggcag ttaggacacg    720
ccttgatggc agggctgagt ctctgggctc ccatccagag ccctttccct ggccaccaga    780
ccatgttaga accacataga cagcctggtg aggagggcgg ctgggtgctt catcaccca    840
cctggtctgt gcagcacgat tccctgtgtt ggaggtcttg gcccatgccc tgctgagctc    900
tgcagccatt ctcagagcct gaacacattt ttcaaaacaa cattccagcc aggagcagtg    960
actcacacct gtgatctcaa cactttggga gaccaaggca ggaggactgc ttgaggccag   1020
gagtccagcc cagataacat agtgagatcc catctctaca agaattttaa aaatcagctg   1080
ggtgtggtgg cacacacctg tagttccagc tacttgggag gctgaggcag gaggatcact   1140
ggagcccagg agttcagggt tccagtgagc tgtgatcgca ccactgcact ccagcctggg   1200
caacagagtg agaccctgtc actaaagaat aaatatgaaa caccttgctt ctatcacaca   1260
gaattgactt tctcagttgt ttatgttaag ttaaaatttt aaaaagttca gttccctttt   1320
gattcttttg cacttgtccc agtgtcactc tgccctgagg caccataatc atgaatttac   1380
attgttctat cacccaaaca gtactttta cataaatgct gaggaatatg tcaggttttt    1440
acatgcttca gatgtacaga tgtggcatca cactgtctgt cactgtacct ggctttgctt   1500
tctcaacatc gtttttccct ctatccttgt tagtatgtgt agtttgttta tgaatcggaa   1560
ctgctgtagt atattccatt gtgaatatgc ctcattttcc tatggatgga attttagatt   1620
tttttttgc tattggaaac cctactgcag tggacatttg ttcatgtgtc cccttgtgca   1680
cctttttaag agtcttcctg gggtgagttc ctaggggtgt ggcaattctg tttttagggta   1740
cacgcgtttc cagtttagt cagtttcctt gatgctcttc agaacagccg tacccattca   1800
ttgcatgacc agtactgtcc ataggccttc catttcatca gccctcacca gaacttcaga   1860
cctggtcatt tttgccaggc cttggtagaa aatagtgcct ttaaaaattt catttacaac   1920
tgggcatggt ggctcacgcc tgtaatccca acactttggg aggccaaggc ggatggatca   1980
cctgaggtca ggagttcaag accagcctga ccaacacgga gaaaccctgt ctctgctaaa   2040
```

2939

```
aatacaaaat tagctgggtg tggtggcgca tgcctgtaat cccagctact cgggaggctg   2100
aagcaggaga atcgcttgaa cccaggaagt ggaggttgca gtgagtggag atcgtgccat   2160
tgcactccag cctgggcaac aagagtgaaa ctccatctca aaaaaaaaa aaaaatcatt   2220
tctgtgatta ctagtgaggt tgagcttttt tccctatatt aattggcaga atttgtttaa   2280
accccctaa agcgccctcc ctgttttgtg cccaccacct gacccacatc gaagactgaa    2340
gagtgcatgg ttggctgcag ggtcctcttc ttacctggga aggggaaggc catgcccctg   2400
ggtgcgtgtg tgcagccctg ccaggcaaga tagcgggcag ggcggcgtgg gatttctggc   2460
atccctctt gctcctctgc ttagtcagac aggaacatgg atttctcacc agtactctgc    2520
tttcagggtt tactgcgagg aaatgcgtga agagcggcaa gaccgactga aatttattga   2580
caaacagctg gagctcttgg ctcaagacta taagctgcga attaagcaga ttacggagga   2640
agtggagagg caggtgagaa atgaggagga ggcattctgg gaagatttgg actccgagta   2700
gagtccagaa gaaagcagac ctcctcctct tagggacttc tcagcctttc agaagaaagt   2760
tgtggccctg tttcaagaat acagagctgc cgtttgggtt ccattgtcgg gttgtgtgat   2820
gctgggcatg ttcccttcc tctggacctc cacagatcat gtgggcgttt gatcagccag    2880
tttcccagac cctctcactt cagaggcttt aattccatag aggagctgag gaggctgctg   2940
gtttgagagg aaggatgtgc catctgctag gatctctcct ggtgctgcag gagtgaactt   3000
tggtcttcct tgatacttaa cagtgtgctt ccttttgctg taggtgtcga ctgcaatggc   3060
cgaggagatc aggcgcctct ctgtactggt ggacgattac cagatggact tccacccttc   3120
tccagtagtc ctcaaggttt ataagaatgt gagtcatgga gcaacaggtc ctcttggcag   3180
gaggcccca aaagtgattc aacccctgtt ggtctgggtc agggcccccc agcagtgaca     3240
gtagaagcca cagagacaag gcccaggctt ccgtcagcct tctggggtca cctggtggat    3300
gtggcctgaa gggaattttg atggacatgc ttctcttaac ttccctcttc tggtggcagg   3360
agctgcaccg ccacatagag gaaggactgg gtcgaaacat gtctgaccgc tgctccacgg   3420
ccatcaccaa ctccctgcag accatgcagc aggacatgat aggttagtgc ccatggggaa   3480
ctgggcagct gtggccctgg gctgcccaaa gatcagatgc ggaggccaag ctaaagaaat   3540
caggactttc cttatctgtc acttttcatg atgattcaac tcgatacctt caggttctgg   3600
gtacatgttc tgaactcatt cttgtttgct ttttgagaca gagtcgcact ccgtaaccca   3660
ggctggagtg cagtggcatg atcttggctc actgcaacct ctgccaccga ggttcaagcg   3720
attcttctgc tccagcgtcc cgagtagctg cgactacagg cgtgaccacc acacctggct   3780
aatttttttg tatttttagt agagatgggg tttttgccacg ttggccaggc tggtctctaa   3840
ctcctgacct caagtgatct atctgccttg gccttccaaa gtgctaggat tacaggcatg   3900
agccaccggc cctggccttg tgaactcatt ctgtacacag ggttggggag cccatcttgt   3960
tctactacat gggtctaccc taggctgaga attgggcctg ctcctttaag tccacgtgag   4020
gcataagtgt tagcagtatg gcatctgagt ccacacttgc ctgggagagc tggcctcaag   4080
tgaggcatgc tcagtctcac gggccaactt gactggggtg tggttcccag gcaaagctgt    4140
tcagcatccc tggcagtagc tggtagagcc ctgtctccaa ggcttggtgc cgctgtggtg   4200
cagggctgag ctgataagct tttcctccat ttctcttcct gacagatggc ttgaaacccc   4260
tccttcctgt gtctgtgcgg agtcagatag acatgctggt cccacgccag tgcttctccc   4320
tcaactatga cctaaactgt gacaagctgt gtgctgactt ccaggaagac attgagttcc   4380
atttctctct cggatggacc atgctggtga ataggttcct gggccccaag aacagccgtc    4440
gggccttgat gggctacaat gaccaggcaa gcaaagttcc tcacctcaag ggcattgtgg   4500
ggggtcagtc tgtaccctgc ctccagacac gggaaccatt ctaaaacggg ggttccctaa   4560
ggtcagcagc tgtggtggtg tgccccacca cacagtacac cacagacaga attttttgcta   4620
ctgattgacc tggatttgtt ctaagcagtg atatttgtga aatgacagat gctagtattt   4680
ttctctaata cacattaaag taagtatgta actattaaaa atagacgact ttaaaaataa   4740
ccacctacat acgactattt taaagttcag attttaaaaa cattcatctc taaaccactt   4800
gagttgtcac atgtactgcc ctctgtacac atcccacact cggggaagct gccaggcggg   4860
tcaggatggc tcctgctcac attttgcacg tcccgtggtg ctcacctgag ggtctcctct   4920
gctacatctg aagctagttg tcccctttt gccttttgga aattgaagag ccactctgtg     4980
tccctgttcc ccagactagg gcaacactga gggttcacgt gaatgagaga ctcaatacgt   5040
cccccctcacc cctctcatgt ttctctcctc aggtccagcg tcccatccct ctgacgccag   5100
ccaacccag catgccccca ctgccacagg gctcgctcac ccaggaggag ttcatggttt   5160
ccatggttac cggcctggcc tccttgacat ccaggacctc catgggcatt cttgttgttg   5220
gaggagtggt cagtgaccag ttctgctcgg gaaggtgggg gcggagggca ggtgggcggg   5280
gcctgagggc taggttcctg ctgtggcccc tgcattgggc cacactccac agtccactgc   5340
atactttctc ctctgtgatt gcatggggag cgctcactcc ctcaccaagt ttccctcact   5400
tcctgctgga catggtccca gaccttctgg cctcggtggg atcaaaggag acattgaaag   5460
aggaactcag agtagaaaca tgaaggctcc ttggctgggg cccttcagat ggccctggta   5520
gtgatgggcc ccagaggagg gtgggccaca gagaggctgc actccaggct gaccatgtgc   5580
tctgcaggtg tggaaggcag tgggctggcg gctcattgcc ctctcctttg ggctctatgg   5640
cctcctctac gtctatgagc gtctgacctg gaccaccaag gccaaggaga gggccttcaa   5700
```

```
gcgccagttt gtggagcatg ccagcgagaa gctgcagctt gtcatcagct acactggctc    5760
caactgcagc caccaagtcc agcagtgagt ggccctgtcg daccccagca ggggacttcc    5820
tttaggcagg gtcagcccca tctcccttcc ccatctctct tcccacgtgg cctggaagcc    5880
actgggtcct aagcatcgta daccctgggc cttcaggtgt gcaggccag cttttgaggcc     5940
agtcatgggg agaggggtct cccagggaca cttttgcgtct tgggctggga cggggtaggc    6000
ctctgggccc cttggtgagg aagaaatggg aaggcaagag atattcctag taggagtttt    6060
agaggttgcc ttgaagagct tgggctgtgg atgtagtttt gaagtttttg aacccagcct    6120
gatcttcgtg cacatcttag gtcaggtggg aatctattgc ctaatctggg gtggtgggga    6180
tgaatatcct cgcttccttt tttttattgt gtgtggcaga ccctttgctc tagacatttt    6240
gcacctaatt atttctctga ctcttggagg tagatgttgt cttatagcca tctccttttt    6300
ctttctttct ttttttttta attgatcatt cttgggtgtt ttggcagggt cataggacaa     6360
tagtggaggg aaggtcagca gataaacaag tgaacaaagg tctctggttt tcctaggcag    6420
aggaccctgg ggccttccgc agtgtttgtg tccctgggta cttgagatta gggagtggtg    6480
atgactcttg acaagcatgc tgccttcaag catctgttta acaaagcaca ccttgcaccg    6540
cccttaatcc atttaaccct gagtggacac agcacatgtt tcagagagca ccaggttggg    6600
ggtaaggtca tagatcaaca gcatcccaag gcagaagaat ttttcttagt acagaacaaa    6660
atggagtctc ctatgtctac ttctttctac acagacacag caacaatctg atttctctat    6720
cttttcccca catttcccccc ttttctattc gacaaaaccg ccatcgtcac catggcccgt    6780
tctcaatgag ctgttgggta cacctcccag acggggtggt ggccgggcag aggggctcct     6840
cacttcccag aaggggtggt tgggcagagg cgcccccac ctcccggatg gggcggcggc      6900
cgggcggagg cgcccccacc tccctcccgg acggggtggc tggccgggcg ggggctgacc    6960
ccccccacct ccctcccgga cggggcggct ggccgggcgg ggactgaccc cccacctccc    7020
ggacggggcg gctgctaggc ggagacgctt acttcccaga cggggcggc tgcctggcgg      7080
agggctcct cacttctcag acggggcggc tgccgggcag agacgctcct cacctcctag      7140
acggggttgt ggctgggcag aggcgctcct cacatcccag acggggtggt ggggcagagg    7200
cgctccccac ttcctagatg ggatggcggc cgggaagagg tgctcctcac ttcccagagt     7260
gggcagccgg gcagaggggc tcctcacatc ccagacgatg ggcggccagg cagagacgct    7320
cctcacttct cagacggggt ggcggccggg cagaggctgc aatctcggca ctttgggagg    7380
ccaaggcagg cggctgggag gtggaggttg tagcgagctg agatcatgcc actgcctggg    7440
caacattgag cactgagtga acgagactcc atctgcaatc ccggcacctc gggaggccga    7500
ggctggcaga tcactgccgg ttaggagctg gagaccagcg cggccaacac agcgaaaccc    7560
catctccacc aaaaaaatac gaaaaccagt caggcgtggc ggcgcgcgcc tgcagtcgca    7620
ggcactgggc aggttgaggc aggagaatca ggcagggagg ttgcagtgag cagagatggc    7680
ggcagtacag tccagcttcg gctcggcatc agagggagac cgtggaaaga gagggagagg    7740
gagaccgtgg ggagagggag agggagcggg agaggagag ggccatctcc tttttcaaaa      7800
tcaagaaact gagatttgaa aaatagtgac gtgtcctctg ctactcggct gatgagcagc    7860
agagtcagga tctcttgtgc ccaaaccagg gtgcacagct ctgtgctgtt gcttctcagg    7920
ccgtggtgat gctgagtgtg tttggttgtt atgattattc agtctcagca gggtgtagga    7980
gattctgcca aaccaggcct ggctcagggc agagctgctg gcagggatat agacaggccc    8040
agctgctccc tactgtgggt gggctaagcc accagtggca tcttgctcca cacaccccaa    8100
ctgggtccct tctctctcct ccccagggaa ctgtctggga cctttgctca tctgtgtcag    8160
caagttgacg tcacccggga gaacctggag caggaaattg ccgccatgaa caagaaaatt    8220
gaggttcttg actcacttca gagcaaagca aagctgctca ggtgaggctg gcccgtgtgg    8280
ccaaaggtta gggctccagg gtgcagccca ggcacactgg ggctcagctg ctgggcttgc    8340
gtcttgggtg tggacacaaa tttttctggt ggggatttag ctcattcgtg ttagatgtgt    8400
accatgggct gggcacggtg gctgacgcct ataatcccag cactttggga ggctgaggca    8460
ggtagatcac ctgaggtcag gagtttgaga ctagcctgac caacatggtg aaaccccgtc    8520
tctactaaaa atacaaagat tagctggtcg tggtggtgtg tgcttgtaat cccagccact    8580
cgacaggctg aggcaggaga atggcttgaa cccagaaggc ggaggttgca gtgagccgag    8640
attatgccat tgcactccag cctgggcgac aagagcaaaa ctctgtctca aaaagaaaaa    8700
aaaaatggat gtgtaccacg tacctcatgg atgccagatg gtgctggagg ctcaacaaga    8760
cacagcgtcg ctgccttcaa ggcacttgca gttgaaggca tgatggcatc acagtactgc    8820
gagactgcag ttcacagcgc cctgtgctga accgcagggc ctacagcgct taacatgtgc    8880
tatttcactc agtcttccct atttctccat tttctacata gaaatgttgg ggaacttgtc    8940
tggcatctca aaaaatggcc aggctaggag gggagcccag gtgtacttgg ctccagcagc    9000
ccccgcactc tgattctcct tacctgccac tctttggacc catgaagagg gcatagcccc    9060
ccatttaccc acagagaagc tggttacttg gctggggact ggcagagctg ggattggaac    9120
tcagatctcc atggggtctc tgtggagctt tcattaataa tttgctggaa agaacatcag    9180
tctgaggagt ctggagtcct gggttctctc cagccactca tgtttggccc aagctcttaa    9240
ctctcctgtg tctcattatt ttcatctgta aaatgggagt aagatttcat gacacagctg    9300
catgactgaa tgtaaaagtg ccctgcaaaa gtcctcggcc tgcccagctc atgataacat    9360
```

2941

```
cagcacacgg ggaccctgca gaagtcctcg gcctgcctag cccatgatag catcagcaca   9420
cggggaccct gcacttcctg ccctcgcccc tgacgtcaga gtctgcaggg tggcagagcc   9480
agaggggaga tggatcagag ggtgtcagct ccaaccctca ccggatcact gggctttccc   9540
tgccctcgac tgcggatgtg ccccccccgc accccacct  ggggacagct gcttcctagg   9600
gacacactgc ttgccctctg gggactctca gaaaggggga atggggggaa ctgctgcttg   9660
tcagccacag tgacacagct gaacctggaa agggtctcct gtcagcacct caaccccttg   9720
cttggcaagc agggaaactg agttcccgac agctcaggga cttgcacatg gtcctgggtg   9780
aaggaaacac agggcttgag aatcagaaaa gcctaacttg tagctccctg gcttattagc   9840
cgtgtggcct tgggaagtta tttaacccct ctgggcctcc ttttccccat ctgtgagaca   9900
gggataaaca cgattgttgg aggatgatgt aagggtgtgt gtcaagcgtc cttaggatgg   9960
tgcctggcgg gtagtcctaa tactgcctat catcagctat catggttaca aaagaaccat  10020
ttctttgcag gaataaagcc ggttggttgg acagtgagct caacatgttc acacaccagt  10080
acctgcagcc cagcagatag tgggcacctg aggcggagtc tgcgtggaga ggggcggtgc  10140
tgccagccct aagtgccatg tgggctcccc caggggcacg tgtggctcct gcccctggc   10200
cactgccaag agaatgaagc acccagtctc gtaccatttt gagccctcca gcactactta  10260
ttttccccca cctttgcctg ctgttgctgg aagagctggc tcatacccc aaaggacact  10320
ttcagcgaca gctatggaca gcatggtacc aaggagttaa gttgaggctt tttccagctt  10380
tctctggttc atttgattgc ttgataaggc ctcaggatct cagcattgca caatgcctca  10440
tggaagcctt tgagggtatc acacagacac ccccaccttc ctccagcctg tgcgcacctg  10500
ccctccttgc agcccagcac acctgcaggt gtaagggacg attggagttt cttcccagag  10560
agtctgtccc agaaggactg tggcttgtgt gtgtccatct cgcctgttgg ctcagtgctt  10620
catcccattt gcagagcctc agacacgtct tggtggtgag gctcagttac ccctgggctt  10680
aggctgaggc gggccctgtg ctgggggtgg tagaaaggat gctgctgagg cagctggagg  10740
agtgggagta gctcagaggg gagggctgtt ggatgtatgg ggagctggca gagcaggtgg  10800
cagtcactgg gacaaggagg gacttgcctc tcttctcatt attgtgtcct ttgctttagt  10860
gtcagtcctg gacttgtgca ggcctgtttt gtgtagatct gttttggaag atggcatggt  10920
ctaggtggtt gaaggatgta gtagaaggat ggatggtgga aggtggggac gttggtggct  10980
ggctgaggtg catgggcccc acacaggaca gctggagaat gggccgtcca cttggcctcg  11040
ttctgcgagg ggctcatggg tctgagagcc cccacccact aggcttgatt gcatccctgt  11100
tgtgcccttt aagagacatg tttccacccc acccccaacc ttgtcccaag tgccctggac  11160
taaatttcct gtgccagtga ctgcagttgg ccaagggaca atgtggaaaa cccagtgtcc  11220
atctttccac cctccctgat ctccagaacc ttcgactgac ccccttgtct ttatgctgat  11280
gttgagtttt gggattgtta ctggttgaag tgggggcaga tgcctgtcac caaggtgttg  11340
actgtgtgag aaaagcagtt tgggtgacaa atcctgtgtg gcacaagttg gatcgcttcc  11400
tagaaataag caacacctct cccaaaaagc agcccacaag gcaggggccc agcagcccag  11460
ccatcactca tctttgagga aatgagttgg tagcctctgt gcactgtttg gtggccacat  11520
cacaggtgat gtcctgttca catacctgct tgtatttaaa gccctcagtc tgtcctgttg  11580
tgtggggcga agtgatggac tctgccaggt ggacatgctg tgggtggatg ttcccggcgt  11640
gtgccgggcc tgaatggaca ggggccactt cacagcatgt cagggaaaat cactgtcaca  11700
caattccaat ggattttgtg ctctttttga aaaaaaaaaa ttctttagcg taaacatgaa  11760
ttttttttca atgtagcccc tggggaatga atgaaatttt gagcttcttc aatacgtaaa  11820
attaaattta taccactgag ggagagaccc tttctgaaag aagtatggcc aaaagcactt  11880
taatgctgct gacattgttg tttttatgtt catttgctgg agcgcaagac gtgctgacac  11940
agtgagtttt ctctgatgta tttaaggtga tgtatttgct tgagttactc ctgtatcatt  12000
gctcataata ttggaaacta aaataaaacc tagttggaaa tcctttgtga gatctgtctt  12060
tttgggttct tgtacaaact cctctttgac atggccagct gtattctgaa gtgaccataa  12120
ctttggggaa gttcccacta taatctggct ccttattctt ggaaggaatt tgatactctc  12180
aaaagaacag atggtttaac tgatctttaa ggatcaggaa atcgagactg atttctttac  12240
agatttctct gtaactccag accatttttc acttaaaaag taaatgactc actgttccat  12300
cctgctttgc cttctgagaa tttggttgcc actattcttt tttttttttt tctttttttga  12360
gatggagtca cgctctgtcg cccaggctgg agtgcagtgg cacgatctcg gctcgctgca  12420
agctccgcct cccgggttca agcagttctc tgcctcagcc tcccaagcag ctgggattac  12480
aggcgccgac caccaggcct ggctaatttt ggtattttag tagagacagg gtttcatcat  12540
cttggccata ctggtctcaa actcctgacc ttgtgaccca cctgcctcgg tctcccaaag  12600
tgctggcatt acaggtgtga gccaccgctt ttttttcttt ttttttttaa gggtcctcag  12660
gagtagatac aggggtagtc agtcagtttc cccgcccta cagctgtcct cttggctctg  12720
gtgctgccca gtgtcgcccc tgctcgccca cagaggccac agctcagctg atagcaacct  12780
catccttcca gattcccagg ctacacactt ggggcatcac cctcgagtcc acggtcacac  12840
gtgctgcacc aaatctgtca cctgctgtct tccaagtctg ttgaccctgc ccagtttcct  12900
cacctccatc ataaccatca gcccggatct aggttcctgt tcctgccttg tccccgccta  12960
tcctcgccat cttgtggctg tttcaaggca gcagccaaag actttctcag gtaacaaaaa  13020
```

2942

```
aaaaatgaat cattacctttt ttttttttttg caatccacaa aacaagtagt ttctgtcatt  13080
aacaagatgt tatgtacaac ccactaaatt gttcacgaca gcatcatccc gggtgatgag  13140
ccatagtttg aaaaagggcc ttcttgcctt atgcaaatgc tgcttagtta ttcccagtca  13200
aggccagcct cattcctgtg ctttctctga ctacctcatc tgtccactgg cgaatctgag  13260
aggctggaag ttttagccct ctggtaacaa tgtccctatt taatcacaaa aagtaggtag  13320
tcaggaatgt tccactgtgt cccaagcact ggggtgacag cccaggcagc tctctcggag  13380
agcatctggc ttcataatgt ggcctcagaa gcagggccct cctcgcagat gtcagctaag  13440
ttgttcaccg tgtcctcaag tggatggttt cctgtgtcta agtgggactc ttaggcttga  13500
gataagaaca gcgaactttg agagtttagt atgtcagaca tttcatacgc atgagcccta  13560
atctcaaaat ccaatggtct attttcccta atttcctcaa atgaggaagt tcattaattc  13620
agcaaaatat ttgtgcactt actatgtgct aagcatggtt ctaagcactg gagatatagc  13680
agtgactaag gtggataaaa atctgcccct ggggccagac gcgatggctc acgcctgtaa  13740
tcccaacact tttgggaggt gggcggatca cgaggtcagg agttcaagac cagcctggcc  13800
aacatggtga aaccccatct ctactagaaa tacaaaaatt agccaggctt ggtggcgtgc  13860
acctgtaatc ccagatacta gggtggctga ggcaggagaa ttgcttaaac ctgggaggtg  13920
ggggttgcaa tgagccgaga tcacgccatt gcgctccagc ctggcaacag agggaggctc  13980
cctctcaaaa caacaacaac aacaacaaaa atctcactca ctgattagta acctttttca  14040
gttacaaaga aaaacaacat actcgctaaa ctccctaaca tcaggagcca tcaggcaaat  14100
tatctcaagt cttgatttac aaaccaaacc cttatgcctc tgattacaca ggggaccggt  14160
ctgacaaact ttttttttttt ttttgaggta ggttttttgtt ggctggagtg cagtggcgca  14220
atcacggctc actgcagact tgacctccca gactcaagtg atcctctcac cttagcctcc  14280
cgaatagctg ggattaaaag tgtgcgccac catgcccgga taattttttg ttttttgta  14340
gagacgaggg atctcactat gttactcagg ctggtttcga actcctgatc tcaaatgatc  14400
ctcacacctt ggcctcccaa agtgctggga ttataggtgt gagccaccat gtctggacac  14460
aaatattctt tttctttttt taatttaatt tttcaaatag agaatgtatg ttggctgggc  14520
acagtgcctc atgcctgtaa tcccagcact ttgggaggct gaggtgagag gatcgcttga  14580
attcatgagt ttgagaccag cctgggcaat ctggcaaaac cctgtctcta caaaaaatac  14640
aaaaattagc ccagcatggt ggtgtgcact ggtagtccca gctattccgg gggctgaggt  14700
aggagaatca cttgaaccca ggaggtggag gctgcagtga gccgagattg catcactgca  14760
ctccaaccta ggcaacagaa tgagaccccg tctcaaaaaa aaaaaaaaaa aatagatggg  14820
atcttactgt gttgcccagg ctggcctcta attcccaagc tcaagtgatc ctcctgcccc  14880
agcctcccag agtgccggaa ctacaggcat gagccatcac acccagccaa taaacattct  14940
tttctgataa gcaactgcag aacttaagcc agtttcagcc agcttacaga agctgtgaac  15000
aacctgttta gccaatgcac atgagctcac ctcctctcat aaatatgtat acagcttttc  15060
cctcaaacct gctaaatatg tatgaatatg ggcctgtga ggcataaaac ccaacctgtc  15120
ctttctctct tggaagagag caccttcagt gcatgctgca aaccatctct tcctggtttg  15180
caaacaagta tcaacaataa agtgctcctt tctactattt agccaccctg gtgatcttct  15240
agacaacatt atgcgtattt ctgctaggaa cattagtgtt caaatctctg tgtaggcaga  15300
tgttttcatt ttttgtaggt agatatctca ggctggactt gctgggccat atggtaaatt  15360
tatgtttaac ttctacagat tttgtgaagt ggttatactg tcttatatcc ccaccagtag  15420
tgaatgtggg ttcatatata tatatagttt ttttttttttt tttttttgag acagtcttac  15480
tctgtcaccc aggctggagt gccgtggcac aatcgcggct cactgcaacc tccgcctccc  15540
aggttcaagc cattctcctg cctcagcctc tcgagtagct gggattacag gtgcccacca  15600
ccacacccgg ctaatttttt tctatttta atagagacgg ggtttcacca tgttagccag  15660
gctggtttca aattcctgac ctcaactgat ccgccgcct tggcctccca aagtgctggg  15720
attacaggcc tgagacgtcg tgcccggcct catttcattt tttagagcat cacaaactac  15780
ctctccagct catcttgcta gagttactgc ataatccatg cattcctgcc aaggatcagc  15840
catcttcttg agtcggaggg cttcctgcta gctcggtgcc tggtgttatc accctcggct  15900
cttctggagg tagaggggct acctatcttc ttttcattct ttttttttttt ttttttaat  15960
ttgagacaga gtttcactct tgttgcccag gctggagtgc aatggtgcga ttttggctca  16020
ccacgacctc cgcctcccgg gttcaagcga ttctcctgcc tcagcctccc gagcagctgg  16080
gattacaggt atgcgccacc atgcccggct aattttgtat ttttagtaga cacggggttt  16140
ctccatgttg gtcaggctgg tctggaactc ccgacctcag gtgatccgcc tgcctggacc  16200
tcccaaagtg ctgggattac agacgtaagc caccgcgccc agccaatttt tgtatttta  16260
gtagagacgg ggtttcgcca tgttgcccaa gctgatcttg aactcctgac ctcaggtgat  16320
ccacccgcct cggcctccca aagtgctggg attacaggcg tgggccactg cgcccggccc  16380
cagttttct aagttatata gtttaggttt cacaactaga tctatgatcc attctaggtt  16440
aatttttgca tatgggtttc tttttttttt ttttaggatg agtgtgtgga tatccaatta  16500
tacctacaac atttgttgaa gacaccatct cttcttgttt tcccaagttt ccacacacat  16560
tattgataaa ataaattttt ttgggggggg tgctgggtgt cgctgggctg taactcctta  16620
cctcaagcca tctgcccacc tcggcatccc aaagcgctgg gattacaggc gtgagccacc  16680
```

2943

```
gccccgggcc gaaggcatta tcctttctcc actgaattgc actttcattt ttgtcaaaaa   16740
ttaattgctc acatatcgga actctattct gttgcattga tccatttgtc tacctggacg   16800
ccaataccac actttctttc tttttaaat taatttattt attgagacag ggtctctcag   16860
tcagggtgga gtgcagtggt gcaatcaaag ctcaccacag cctcagcctc ttggactcag   16920
gtgatcctcc catctcagcc tcccgagtag ctggactaca ggtacgtgcc tggctcattt   16980
tttgtagaga cggggttttg ccatgttgcc caggctgggt atcttttttt tttttttctt   17040
ttttgagatg gagtcttgcg tcttgctctg tcatccaggc tggagtgcag tggcgcgatc   17100
tcggttcact gcaatctctg cctccctagt agctgggttc aagcgattct cctgcctcag   17160
cctccctagt agctgggatt acaggcgccg gccacctcgc ccggctaatt tttgtatttt   17220
taggtttact ggcgtgagca accgcggccg gccccaatac tacactttct tgtttactgt   17280
gtagtcctta tcttctggcg caaagcgggc actcgctaaa aacctgaatg aaagtataaa   17340
gcaggccggg cgcagtggct catgcctgta atcccagcat tttgggaggc cggggcgggc   17400
ggatcacgag gtcaggagtt cgagaccagc ctggccaaca tagtgaaacc ctgtctctac   17460
taaaaataca aaaaaaaaaa aaaaaaaaa aaaaa                                17495


<210> 6033
<211> 12580
<212> DNA
<213> Homo sapiens

<400> 6033
aatcaagacg gccggccgag gcccctggaa cggctcaggc ggctgcggct gctacggcgg     60
cgcatgctag gggattctgc cgggtgagtg ctgggcggca ggactggggt ggggcggaag    120
ggctcggcag gaggccccac gtgcattccc gcgaggggct cggggccgc agtggaaaag    180
aagggtaggc tgcatctgcc tctgcggggg tcccgcctcg gcgtccgccc gctcgccctc    240
tgttacttct gcggccccgg tgtttctgga gcgtcgcttt cccggtgtct ccgctcagct    300
tttcccttc caaagcgcgg ccggggccag gggagggcaa ggcctgctgt gccctttgac    360
cccgtgcgaa aacggcgacc ctctgactat aggggtgtgg cccagagcca cttggccagt    420
tagggtgggg ggccgggatc tttgtcctgc ggatcaaaca gttggcccct ctggactgca    480
tctccgtgcc ccccggccct gcggggtaat atacgtgtgt gggggaggtt ccggggtagt    540
cggctactct gtgctccaga ccttgcaccc gatcctgagg atccttggag gtgggggggca    600
agggctggga ggaggaggcg gagtttttccc aggctccccc acacttccag ggaaaggctt    660
tccaagaacc ctgaactcat ggaccctgga gtcaaatttt ggttcagatc tagcctcttg    720
ctagctgtgt gacttggggc aagttgctta acttccctga gctttggttt cttcatatgt    780
aaaaagaaag tgaaggagga agggaggggca ggaaaggagg aagaatccct tttgaagcct    840
gatttgtgtt ggactcacca gttataaagc aagcttgtcc aaaccactgc ccaggaggcg    900
gaggttgcag tgagccaaga aaaaaggaa gcatgccctt gccccagcca ttttggtaat    960
aatagacgtt tattgaatgc ttactgtata ccactgtaag cactgtatta agtaagcact   1020
gtactgagtg ctttgttttt tgtattttgt gtgtgtgtgt gacagtcttg ctctgtcacc   1080
caggctggag tgcagtagtg tgatctccac tcactacaac ctccgcctcc caggttcaag   1140
cgattctcct gcctcagcag cctcctgagt agctgggatt actggcgccc accaccacac   1200
ccggctaatt gtttgttgtt gttgctgttt ttgagacgga gtctcaccct gtcgcccagg   1260
ctggagcgca atggtgcgat ctcggctcac cgcaacctct gcctcccggg ttcaggtgat   1320
tctcctgcct cagcctcccg agtagctggg attacaggcg cgtgccacca cgcccggcta   1380
attttttgcat ttttagtagc gacgaggtct ctcgccacgt tggctaggct catctcaaac   1440
tcctgacctc aggtgatcct cctgcctcag cctcccaaag tgctgggatt acagacgtga   1500
gccacttggc ctgtttttttg ttttttttac agtgatgcaa ccatggctca ctgcagcctg   1560
ggtctcctgg gctaaagcta tcctcctgag tagctggggc cacagacaag tgccaccatg   1620
gccagctaat taaattttttt tttggccagg cactgtagct catgcctgta atcccagcac   1680
tttgggagac cgaggcaggc ggatcacaag gtcatgagat cgagaccatc ctggctaaca   1740
cggtgaaacc ccgtctctac taaaaataca aaaaattagc tgggcgtggt ggcaggcgcc   1800
tgtagtccca gctactcagg aggctgaggc aggagaatgg cgtgaacccg ggaggcggag   1860
cttgcagtga ccgagattg cgccactgca ctccagcctg ggcgacagag caagactcca   1920
tctcaaaaa aaaaaacaaa aaacaaaac aaaaaaaat gtttctacaa atgttgtcca   1980
ggcttaacat gctttctta attctaacaa caatcgtatg aggtagatac tgttgtcgtc   2040
cagcagatga ggaaactgag gcacagagaa gttaaataac ttgcctgagg cagtacagtt   2100
aaagagtgtc gaatgggggt ctctggcacc acagggcacc ctactgagcc ccgtgtcctg   2160
ctgtcttgac ttcaggtaga agagctgggc ctggaaccca gccctgagga catcctgcgg   2220
cccagggggca agtgacacct gctgagagag gcccaggatg gtggaggctg aggaactggc   2280
acagctgcgg ctgctcaatc tggagctcct gaggcagctg tgggtggggc aggatgctgt   2340
```

2944

```
gcggcggtca gtggccaggg cagcctcgga ggtgcgtgcc cgccttggga accccagagg   2400
aaggggctac ctgaccttca ggccagcatc caggcttctg ggctcatctt gttcaataca   2460
cccattttac tgatgatggg acattgaggg ctggggaggg aagagactgg ccttggtcac   2520
tgctgaggcc ggagcaggat gaggatgctt gccttggtgc ctggcgtagg cccggtgggt   2580
aggttctggc agccactccc tgggtgaccc ggcccctctc tccagtcaag cctggaatcc   2640
agcagcagct acaactcaga gactccatcg accccagaga cgtcctcaac ttccttgagc   2700
acctcctgcc cacggggccg gtcctccgtg tggggcccac cagatgcctg tcgaggggac   2760
ctccgtgatg tggccagatc ggggggtggc tctctcccac ctgccaaatg ccagcaccag   2820
gagtccctgg gccgaccgag accccactca gcaccctcgc tgggcacctc aagcctgagg   2880
gacccagagc cctcagggag gctgggtgat ccaggacccc aggaggcaca gaccccgagg   2940
tccatcctgg ctcaacagag caagctgtcc aaggtaacgt gggagagcgg gacatctgct   3000
gatgggagga gcttccttgg gcctcagttt ccctatctga cacatgtgct tgtgggtagc   3060
ctcccttgca gaataagagg ctcctgggag atactgtgag ttgggtcttg ctcagcctaa   3120
atgctcgcta ggtggtagct gtgagtatct catacagtgc tttgagaaga ggccaggatt   3180
tgttcacagc cacacataaa gtggggccaa acgtttccct tcttgctctt gtgcccttgg   3240
ctgagccctg ggctgcaagt cagggtgtaa gttaagacac agtctctctg tccctcgaat   3300
tgcggcttcc tctgggccag gcctcttggc ttagtccttg tccctctgtg cttccttcct   3360
cagcccaggg tgaccttctc tgaggagtct gcagttccta agaggagctg gcgcctcagg   3420
ccatacctgg gctatgactg gattgcaggt aaggcgtgct gttgccctgc acacactttg   3480
cctgggagtg ggaggtggag gcctgggatc ctccatgctc ctgtctgagc ctccacccgg   3540
tgctgttgct tgtttctctg accgtgccat cctccgtggg gagcaccctc tttttttttt   3600
tttttttttt ttgagacgga gtctcactct gtcccccagg ctggagtgca gtagtgtgat   3660
gttggctcac agcaacctcc acctcccagg ttcaagtgat tctcatccct tggcctcccg   3720
agtagctggg attacaggcg agcaccacca cgcccggcta attttttgtat tttaagtaga   3780
gatggggttt ccctgtattg gccaggctgg tctcaagcta ctgagctcaa gatatccacc   3840
taccttggtc tcccaaagtg ctaggattac gggagtgagc caccgccccc cacagccacc   3900
ttctttgttt tcttatttat ttatttattt atttatttat ttatttattt ttgagatagt   3960
ctctcgctct gtcgcccagg ctggagtgaa gtggcgcaat ctcggctcac tgcaagcccc   4020
gcctcccagg ttcataccat tctcctgcct cagcctcccg agtagctggg actacaggtg   4080
cctgccacca cgcctggcta atttgtttgt attttgtttt ttttagtag agacgggatt   4140
tcaccgtgtt agctcgcctc agccttccaa agtgctggga ttacaggcat gagccaccat   4200
gcccggcttt tttttttttt ttctttgctt tttaagagaa gacaggccgg gcacggtgac   4260
tcacacctgt aatcccagca ctttgggagg atgaggtggg cggatcacga ggtcaggagt   4320
ttgagaccag cttgaccaac atggtgaaac cccgtatcta ctaaaaatac aataattagc   4380
cgggtgtggt ggcacgggct tataatccca gctacttggg aggctgaggc aagagaattg   4440
cttgaacccg ggaggcggag gttgcagtga gccgatattg caccactgca ctccagcctg   4500
ggtgacagag tgagactccg tctccaaaaa ataagcaagc aaaaaaaacc agatgagcag   4560
cagtgagaag aaggggaaa gagtagaaca aagagtttgg tctgtcactg actgtgagta   4620
tacaattgcg ataactcact accttcacgc cagcctctga gcaccttctg agccgtatct   4680
gctctctcaa cctcaggcac tgagacggtg catctgttga atgaatgaat gagtcccagc   4740
tgccgtatgt ttgaacattt gttatgtgcc aggcccctgc acaacttcat accaatgcca   4800
gctctttttca cgttattgtc cagctctccc cgacagcaac ctaacctcag ctgccttctg   4860
gctggtttcc ccctggccta tgtcccattg ctgtcctttg catgtgtatg tgtgtttgtg   4920
taaatacata acataaaatt taccactta gcattttttt tgagatgaag tctcactctt   4980
gtcatccagg ctagagtgca atggcgtgat ctccgctcac tgcaacctcc gcctcctggg   5040
ttcaagcgat tcacctgcct cagcgtcccg agtagctggg attacaggtg cctgccacca   5100
caccccggcta attttgtat ttttagtaga gaaggggttt caccatgttg gccaggctgg   5160
tctggaactg acctcaggcg atccgcccgc ctcagcctcc caaagtgctg ggattacagg   5220
cgtgagccac tgctcccagc cacatgtagc gttttttaag tggactgtta agcggcgtca   5280
actatgtcta cactgttgag ctatcattac taccatccac ctccagaact ttttcatctt   5340
cccaaaaact tctctcccca ttaaataatt actcccattc ccctccctc cagccctgga   5400
cagtcaccat tctactttct gtccctatga atttgactcc tctagggacc tcatataagt   5460
gaaatcatat agcctttgtt cttttgtact ggcttatttt atttaacata acggcctcaa   5520
gatttattca tgttgtactg tgtgtcagaa ttcccttcct tttttttttt gttttttgtt   5580
ttttgttgtt gttttttttg tttgttttga gagagtcg cactgtgtct cccaggctgg   5640
agtgcagtgg tgtgatctcg gctcactgca accttcacct cccgggttcg agtggttctt   5700
gtgcctcagc ctcccgagta gcaggtatta caggtgtgcg ccaccacacc cagctaattt   5760
ttgcattttt agtagagatg gggtttcact gtgttggcca ggctggtctc gaactcctgc   5820
actcaagtga ttctcctgcc tcggcctccc aaagtgctgg gattacaggt gtgagccgct   5880
gtgcctggct ggaattccct tccttttaa ggctgagtga cattctgttg tgtgtagatg   5940
ccacatgttg tttatctgtt cattcaggga tggacacttg ggtgctttcc atctcttgac   6000
```

2945

```
tgttgggaat aatgctgctg gtgacatggt tgtgcactgt cacttttgac atagcagcca  6060
gagggaattt ttaaacatgg gaatcagatc atgtcactcc cctactcaaa cctccccatg  6120
ggcttttccc agcacttact gtaaaatcca aaatccctat ctagacttac gaggcatgat  6180
ctggcctcta ctggccccat gatgtgacct cccgtctttc ttccagcctc gcggcctcct  6240
ccttttttat ttttatttgt tttctctgtt gcccagagtc aagtccagtg gtgttatttc  6300
tgctcattgc aacctccgct tccttggttc aagcaattct tcctcagcct cccaggtagc  6360
tgggattaca gacgtccact accatgcttg gcttatttttt gtatttttag tagagacggg  6420
gtttcaccat gttggccagg ctggtctcga actcctgacc tcaggtgatc tgcccgcctt  6480
ggcctcccaa agtgctggga ttacacacat aatggggtgg ccacaggcat ggcaggacca  6540
gaaaggaggc cacgaccagg catggtggct cacgcctgta atcccagcaa tttgggaggc  6600
cgaggtgggc gaatcacttg aggtcaggag ttcgagacca gcctgagcat cgtggtgaaa  6660
ctctgtctct actaaaaata caaaaattag ccaggtgtgg tggcgggcac ctataatccc  6720
agctactcag gacgctgagg caggagaatc atttgaatcc aggaagtgga ggctgcagtg  6780
agcagagatc aagccactgc actctaaccc gggcgacaaa gtgagattct gtctcaaaaa  6840
acaaagacag gtgtactgtg gagttgctga gagcaactgg tggcggggac acaggccctg  6900
cccttgagta cttcttgaac tctcagctca ctgccctcct tcctggttct gggaaaatgg  6960
aagcgcctgt cccagtacct gctcttggtc catgcgctct gctcccctgc ctttgccgag  7020
gtgactgtcc atgctgccac ctggaccctg gccctgctcc agcgtgctcc gcccctctgc  7080
ttctggctcc tccagggttt ccttcctgtg atcctctccc tctctgtcct gcatcctcat  7140
cctgcccctt agcatgagca tgaacgtgca ggaagcattc tgggagctgg ttgtatctca  7200
tgctccctgc accaggcacc gctccgagct gtgcttcctg ttcctcccgc tgactccttt  7260
gcccttcatg ataagcttat taggtaggca ccaccatggt gcccattcac agatgggaag  7320
gctgaggccc ggtgagacag aatcttacca gcagctcaca tccagtcggg gtaaagccgc  7380
tgtctgttat ttctcatccc gatgccacat tcctaccttt agcccacatt tgcttccagt  7440
gactgcctgt tttctcgata acaaaacttc ctcttcaaaa gggctgtcta gcctcgttgc  7500
cttcaatttc tctccactac tattcctttt cttttttctt tttttttttt ttttgagatg  7560
gagtctcgtt ctttcaccca ggctggagtg cagtggagca gtgatctcag ctcactgcaa  7620
cctccgcctc ccaggttcaa gtgattctcc tgtctcagcc acctaagtag ctgggattac  7680
aggcatgcac cactacactc agctcatttt tgtattttta gccagagaca gggtttcgcc  7740
atcttggcca gtctggtctg gaactcccga tgtcaagtga tctgcccgcc ttggcctccc  7800
aaagtgctgg gattataggc atgagccact gtgtccagcc tccactacta tttcttaaat  7860
cgggcttcag ctcccagcat ttcatcaaca tggccctcag ttgggtcatc agtggcctcc  7920
gtggtgccaa ctccccagct tagccctcat ccacatcttc ctttgagtag caggggacac  7980
agtggtcact cctgaagcac tttctcccct ggacttccag ccacttgctt cccggttctc  8040
ccccatctct gttggtgctc cttcccaggc ttctggggaa ggaaaggtcc ttgttctgac  8100
tgctacaccc ctaggcctgg gactcggtct tctgactcct cctctctatc ttccctctat  8160
gatctcccaa acgctgaggt gtttggacac tttctctact tctccatttg tatctctagc  8220
ccgcacctct cctccgaatt ccagacttgt atatcccact gtcttctcca catcaccatg  8280
aagttattaa ccttctgtcc gaaatcaagg tcctgatttc cactgctgtg ctcctcctgc  8340
agtctttcct gtctccataa atggcaactc caaatactaa ataggtcagg ccataaactt  8400
gctggattta ccatccagct acatcctgat acacccaaca taagttgaaa atactgttta  8460
ggccgggtgc ggtggctcac gcctgtaatc ccagcacttt gggaggccga ggcaggtgga  8520
tcaggccagg agtttgagaa cagcctggcc aagatggtga accccgtctc tactaaaaaa  8580
tacaaaaatt agctgggtgt ggtggcgcac gcctgtaatt ccagctctgt aggtggctga  8640
gacatgagaa tcgcttgaac ctgggaggca gaggttgcag tgagccgagg tcgctccact  8700
gcactgcacc ctgggcaaca cggtgagatt ctgtctcaaa aaataaaaaa agaaacatcc  8760
taagtcgaat catggtaagt tgggggctgc ccctacctct ccccagctga atcctaaccg  8820
atgcctctgc ttcccctcaa cttgaagcag ccagaggagg agttctgtaa aaatatgtgg  8880
ctgatgtggt tgtgtccctc ccattcccca gaccctccct gggcttctta acctcatctc  8940
ctccaccctc gctgccttcc tgccactttc ccctcctggc tgttcctcag ctgaaccatg  9000
cacatgccca ccccgggggcc tttgcgcttg ctctttcatc tccctgcgat gtccttcctg  9060
ggaggtctct gtggcttctc catgtctctg ctcagggtca tctcactcgg agaggccttc  9120
cctggtatgg ctgcccggcc atactaggct ctgacgctgc tctcttgctt tctggcaggt  9180
atcagcattc agtcttgtat cacgggtttt ttttttttttg gtggctagtt catctcttgc  9240
caccttacag tgtaagcctc attaaggcca ggggctttgt ctgtctagtt cctggcacat  9300
gaaacagcat ctagccctgt cataagggct ctgtcgatat tttttccatg gatggttggc  9360
tatgcatcag ggtagacaga cactgaaacc aaccaacagt cccagtgact ggaggggccc  9420
tcctggcctg tttgaggcac agtagggatg aagcaggtgg cctggggtgc cagggctgat  9480
cgtctctcca agccttggcc ggtggccaca cagcagcccc cagcccctct cccgtcagct  9540
gcctggtgct ttgcccacac cagggtctct ggacaccagc tcttccatca ccagccagcc  9600
tgaggccttc ttctccaagc tgcaggagtt tcgggaaacc aacaaggagg agtgtatctg  9660
```

2946

```
cagccatcct gagtgagcag gggcgggcga gggtgggcga gggcggctga gcggctccat    9720
cccccggcct gctcatcccc ctcgccctct cagaccccag ttgccaggcc tgcgtgagag    9780
cagtggcagc ggcgtggagg aagaccatga atgtgagtgc gggccctcgg ctaggccgct    9840
gagtagtcca gcctcgcgct gccctggcct cccctgcccc agagcagtcc catttgaggt    9900
ttggggcctg gggaggcccc tgagatgttg agactcatgg agggaggcct gcagtctgga    9960
cagggtggcc aagccctggt aggggtggag tgagctaagg cctggccacc gaattagggg   10020
ctgccctgtg tggcaccatc ccaccctccc cagcagtgcc cctgtgctgg tgggactcca   10080
tcccagctcc tgagggcccc aggaggatgt ccctccccac cccttagggc gtgggcccca   10140
ggttctggga ggaaaggggt taggaggaaa tgggccgaag ggcttcccag agggattggc   10200
agcttgtgtg gttgggggcc gctgagggca gcacggagcc tggggacctg ggttcctggc   10260
tcagggagag ctgtggcttc tcatgggcct cgcaggcgtg tactgttacc gtgtcaaccg   10320
gcgcctgttc ccggtgcctg tggatcccgg tacccctgc cgcctgtgca ggacaccgcg   10380
agaccagcag ggccctggga ccctggcgca gccagcgcac gtcaggtgag tgaccagagt   10440
attgggacac cttgggggac agagcctgaa ccactggttt taagaaaaga tgggcctggg   10500
cgtgggcccc caaccgctgg gaggctcctc aggggtcccc cactgccccc ctgcgcaggg   10560
tgagcatccc gctgtcgatc ctggagcccc cgcaccggta ccacatccac cggcgaaaga   10620
gctttgacgc ctctgacaca ctggccctgc cccgggtgag cagccacgtg gggctggatg   10680
gtgatgaggg cggggctggc tcagactggc ccagatcccc agggagggtc acagagcgag   10740
actgggctcg acaagggtga gcgcccaagt ctctggagca cagcctgggc ctcttccatc   10800
acccacacct gtacctaagg gaggtaggac ccccgctcca cgtaccccgg tgcttccagg   10860
gtgatctgcc tgcaggctgg catgacatga atgggtcctg tttattgcgc ttttgtgtac   10920
tgcaggcaca gtccttaggg ggcttatctc atggagcccc cacagcagcc aggagtgtag   10980
gcactgctgt acccccaccc tgcaggtggg gagaccgaag cagaggggga ggcgccttgg   11040
tggaggagct gggattcgaa cctaggtctc tgtgctgctg ctgctgcttt tttttttttt   11100
ttttttttt gagaccgagt tttgttctta ctgcccaggc tggagtgcat tggcatggtc   11160
tcagctcact gcagcctcca ctgtagtccc agctacttgg gaggctgagg tgggaggatc   11220
gcttgaacct gggaggcaga ggctgcagtg agctgagatc tcgccactgc actgcagcct   11280
gggtgacaga gtgagactcc atctcaaaaa aaaaaaaaat gtcctttcct gtgtctccag   11340
gtcgggatgg ggtgccagtg gcaactcccc ctgactccta aattgagagt agggcagctg   11400
gggtcagagg aggagaagga tgcagaggaa agtcagtttg ctggtccgta aaatggacat   11460
aacagcgcca tcctcaggga tgttggtggt gaggtggggc tgttgagtga agcaatccat   11520
gcaggtgctt ggagagccta cagcaggaag taccctgtga atgtcactgt caccgtccta   11580
tcctcctccc atttcagctc tcagggcccc agggatggct ggatctgcca ggataagaaa   11640
ggggagagct ggggtagtct tgtgggtaga cacaggccct gccttggtgg gggcctcctt   11700
cctaatgggg ggcacagttc ctccctgatg ggggtgtgcc cagtcagcgg ggagcttgtc   11760
ccaggtcagg cacttttaac tccttgcctt ccacagcact gcctgctggg ctgggacatt   11820
tttcctccga agtctgagaa aagctcagcc cccaggaacc tggacctctg gtcctctgtc   11880
tccgctgagg cccagcacca gaagctgtcc ggcaccagca gcccttttca cccggtacgg   11940
tccagatcgc atcctagcct ggggtgcccc ctagagggac agagacctcg cagcaggcct   12000
ggggactgca gagcctcctg ggggtagga ttgaggtggg gaggatggag cctgggagtg   12060
tctctctgca gggtccagcc ctccagccct gaccctagcc atccctcgga actcctctgc   12120
tccctgccgc ctgccctgct ccacccagga aggccaccct gactgcaaga tccaggaggg   12180
aatgtggctg gaactgggga tgacctgtcc ctttcaagtg gccccctga gacttcccta   12240
ttccccatcc aggcctcacc aatgcagatg ctgcccccga ccccgacctg gtcagtgccc   12300
caggtccctc ggccccacgt cccacggcag aagccctgag gactgactcc tgggggagaa   12360
cagcattccc gccgcctcca gcctctcccc tctggcaggc gcacccagga gatggaatcc   12420
cctgcccgcc cagctcaggc ccagctgtcc taggttgggc aggtgggtgg acccaagctt   12480
gtctgctgcc tgagttccag agagggagga ccctggggtg gagggtgagg gattctgtgg   12540
aagtttgtaa ataaagctca gtgctctgca gctcaagtcc           .            12580
```

<210> 6034
<211> 34364
<212> DNA
<213> Homo sapiens

<400> 6034
```
caaggagatg ccactcttga acattccaca aatttagact cctcaccatc cttaagttca     60
gtgactgttg tgcctctgag ggaatcgtat gatccagatg taattcctct gtttgacaaa    120
agaactgttt tggaaggtag cacagccagc acctcccctg cggatcactc tgctctccct    180
aaccaaagtc tgactgttag ggaatcagaa gtccttaaga caagtgacag caaagaaggt    240
```

2947

```
ggtgaaggtt tcacagtaga tacaccagca aaagcaagca tcactagcaa aagacacatt    300
ccagaagctc accaggctac tttattggat ggtaaacaag gaaaggtaat catgcctctt    360
ggaagtaagt taacgggcgt gattgtggaa aatgagaata ttaccaaaga aggtggctta    420
gtggacatgg ccaagaaaga aaatgactta aatgcagagc ccaatttaaa gcagacaatt    480
aaagcaacag tagagaatgg caagaaggat ggcattgctg ttgatcatgt tgtaggcctg    540
aatacagaaa aatatgctga aactgtcaaa cttaagcata aaagaagccc aggtaaagta    600
aaagacatat caattgatgt tgaaagaagg aatgaaaaca gtgaggtaga caccagtgct    660
ggaagtggct ctgcaccctc tgttttacac caaaggaacg gacaaactga ggatgtggca    720
actgggccta ggagagcaga aaagacttct gttgccacta gtactgaagg gaaggacaaa    780
gatgtcacct taagtccagt gaaggctggg cctgccacaa ccacttcttc agaaacaaga    840
caaagtgagg tggctttgcc ttgcaccagc attgaggcag atgaaggcct cataatagga    900
acacattcca gaaataatcc tcttcatgtt ggtgcagaag ccagtgaatg cactgttttt    960
gctgcagctg aagaaggtgg ggctgttgtc acagagggat ttgctgaaag tgaaaccttc   1020
ctcacaagca ctaaggaagg ggaaagtggg gagtgtgctg tggctgaatc tgaggacaga   1080
gcagcagacc tactggctgt gcatgcagtt aaaatcgaag ccaatgtaaa tagcgttgtg   1140
acagaggaaa aggatgatgc tgtaaccagt gcaggctctg aagaaaaatg tgatggttct   1200
ttaagtagag actcagaaat agttgaagga actattactt ttattagtga agttgaaagt   1260
gatggagcag ttacaagtgc tggaacagag ataagagcag gatctataag cagtgaagag   1320
gtggatggct cccagggaaa tatgatgaga atgggtccca aaaaagaaac agagggcact   1380
gtgacatgta caggagcaga aggcagaagt gataactttg tgatctgctc agtaactgga   1440
gcagggcccc gggaggaacg catggttaca ggtgcaggtg ttgtcctggg agataatgat   1500
gcaccaccag gaacaagtgc cagccaagaa ggagatggtt ctgtgaatga tggtacagaa   1560
ggtgagagtg cagtcaccag cacggggata acagaagatg gagaggggcc agcaagttgc   1620
acaggttcag aagatagcag cgaaggcttt gctataagtt ctgaatcgga agaaaatgga   1680
gagagtgcaa tggacagcac agtggccaaa gaaggcacta atgtaccatt agttgctgct   1740
ggtccttgtg atgatgaagg cattgtgact agcacaggcg caaaagagga agacgaggaa   1800
ggggaggatg ttgtgactag tactggaaga ggaaatgaaa ttgggcatgc ttcaacttgt   1860
acagggttag gagaagaaag tgaaggggtc ttgatttgtg aaagtgcaga aggggacagt   1920
cagattggta ctgtggtaga gcatgtggaa gctgaggctg gagctgccat catgaatgca   1980
aatgaaaata atgttgacag catgagtggc acagagaaag gaagtaaaga cacagatatc   2040
tgctccagtg caaaagggat tgtagaaagc agtgtgacca gtgcagtctc aggaaaggat   2100
gaagtgacac cagttccagg aggttgtgag ggtcctatga ctagtgctgc atctgatcaa   2160
agtgacagtc agctcgaaaa agttgaagat accactattt ccactggcct ggtcgggggt   2220
agttacgatg ttcttgtatc tggtgaagtc ccagaatgtg aagttgctca cacatcacca   2280
agtgaaaaag aagatgagga catcatcacc tctgtagaaa atgaagagtg tgatggtctc   2340
atggcaacta cagccagtgg tgatattacc aaccagaata gcttagcagg gggtaaaaat   2400
caaggcaaag ttttgattat ttccaccagt accacaaatg attacacccc tcaggtaagc   2460
gcaattacag atgtggaagg aggtctctca gatgctctga gaactgaaga aaatatggaa   2520
ggtaccagag taaccacaga agaatttgag gcccccatgc ccagtgcagt ctcaggagat   2580
gacagccaac tcactgccag cagaagtgaa gagaaagatg agtgtgccat gatttccaca   2640
agcatagggg aagaattcga attgcctatc tccagtgcaa caaccatcaa gtgtgctgaa   2700
agtcttcagc cggttgctgc agcagtggaa gaaagggcta caggtccagt cttgataagc   2760
accgccgact ttgaggggagaa tatgcccagt gcgcccccag aagctgaaag tcctcttgcc   2820
tcaaccagca aggaggagaa ggatgaatgt gctctcattt ccactagcat agcagaagaa   2880
tgtgaggctt ctgtttccgg tgtagttgtt gaaagtgaaa atgagcgagc tggcacagtc   2940
atggaagaaa aagacgggac tggcatcatc tctacgagct cggtggaaga ctgtgagggc   3000
ccagtgtcca gtgctgtccc tcaagaggaa ggcgacccct cagtcacacc agcggaagag   3060
atgggtgaca ccgccatgat ttccacaagc acctctgaag ggtgtgaagc agtcatgatt   3120
ggtgctgtcc tccaggatga agatcggctc accatcacaa gagtagaaga cttgagcgat   3180
gctgccatca tctccaccag cacagcagaa tgtatgccaa tttccgccag cattgacaga   3240
catgaagaga atcagctgac tgcagacaac ccagaaggga acggtgacct gtcagccaca   3300
gaagtgagca agcacaaggt ccccatgccc agcctaattg ctgagaataa ctgtcggtgt   3360
cctgggccag tcaggggagg caaagaaccg ggtcccgtgt tggcagtgag caccgaggag   3420
gggcacaacg ggccatcagt ccacaagccc tctgcagggc aaggccatcc aagtgctgtt   3480
tgtgcggaaa aagaagagaa gcatggcaag gagtgccccg aaataggacc atttgcagga   3540
agaggacaga aagagagcac tttacacctc ataaatgcag aagagaagaa tgtattgttg   3600
aactcccttc agaaagaaga taagagccca gagacaggga cagcaggggg cagtagcaca   3660
gcaagttatt cagcaggaag gggcttagag gggaatgcta actcacctgc ccacctgaga   3720
ggaccagaac agacgtctgg gcagacggct aaggatccct ctgtcagcat tcgctatttg   3780
gcagcagtaa acaccggtgc tataaaagct gatgacatgc cacctgttca agggaccgtg   3840
gctgagcatt cctttcttcc tgctgagcag cagggtctg aagacaactt gaaaaccagt    3900
```

2948

```
accaccaaat gtattactgg ccaagaatca aaaattgctc cttcccacac aatgatccct   3960
ccagctactt acagtgtagc tctgttggct cctaaatgtg agcaggactt gactataaag   4020
aatgattata gtggcaaatg gactgatcaa gcatctgctg agaaaacagg agatgataac   4080
agcacaagga aatcattccc tgaggaagga gacataatgg ttactgtgtc ttctgaagaa   4140
aatgtgtgtg acataggtga gaatctgtac ctaattgcaa attttaatat ttacaaggat   4200
gattgtacaa cagagtgcat ttaggacagt cttccaaaag atggttttgg ttccagaaag   4260
ataaaatatc tataaatttt tttctcatat cataatgttg caaataact ctcatcaaac    4320
ttgaaggtca aacttctcta aaagctactt gtgtttaaaa gtttaaagcc tttggcccat   4380
ttctcatgtg tggggagaga aaaagcagga ggctgaggca tgggaagtcc acatgttatt   4440
tacatgactg ctgcaactta ctaaaccttt ttgacctaca ggttttttgt caatcaaaaa   4500
gaagaatacc ctaccacaac ccaatgaaag caatacattt tttttttacc accctcattt   4560
tacaaacgag gaaatagggt cagaaaattt aaatagcatt catggtcctc gggtgacttt   4620
tagaggaaaa atcagtttct gagcctccat ttcttgttgt ataaaatggg gataataaga   4680
cgggatgata atacaaaggc aaacacgatt ccaaccctca tctgatcata ggtttgcagt   4740
atttgtttgt tcagtctgtt agttcctttg aatcaaagga gcatgttatt tttaactgag   4800
cttatttttc aggtgaaatg agtttctagt ttagaatata tttgaaagtg aaaagaaaca   4860
tttttccctg ctgacagatt ttggacagtg ctggtctttt agaaatagtt aataactttc   4920
aaagatatta tctcagtcat gccttatacc gtccaacttc agatacttta taccagtcca   4980
gattggagaa aagtggacag tgacacttta aagcatgaca attgcataga ctgggattaa   5040
gcacaggatg ctgtaggaac aaaagggtcc tcatgggctg gacttgaagg gacagaggaa   5100
ttcttttcca ctctggctat ataaattgta gcatcctgga cttttaactg aaatagacct   5160
tagccatcat ctaacccagt ctcaggaagc tgaggctaat agatttagtc ttgttcatta   5220
tagagactta ggagacttta agaaatgctc caagggttga aacaagtaac tttacaagtt   5280
tctgttgaat ttagcctgga gtaaattgaa tgctccagaa gtttttatga ctcaatcatt   5340
gctacaatta ctcattcctc cttttttcct gaagaagtga aaatagaagg gtttccacag   5400
aagcttctac acaatctaaa gaaggatata agaggcaaga ccagagtaga actgaatctc   5460
tgcacctgag aaaatttttt ctttttgtct acctcacagt ttaactttgt gttcaatttt   5520
tctgtgttca gtgtgaagca agtaaagtga atctgttaat aaatcacctt tactgagaat   5580
agaccttagt gactcagaat attttaagg acaaacttga tggagatcac tgcagaaaaa    5640
tacttggaaa tgaagatgtc tccacagata atacttttgt cattctttct gggcagttat   5700
cttactgtgc aaataagaat ttcactcacc caaaatgagc aaataatccc tgcctttcat   5760
ccagattctt ttatacaaca tattcctttt gatcattttc tactgacagc aaaataaacc   5820
agaaaaggaa ggtgcaacag catgtcagat aaccacattc cattactttt tgaccccaga   5880
tgtattttgc aagcaaattc ttaaactgta ctaaatggct tgaattttat taggcaatga   5940
agagtctcca ttgaatgttt tgggaggatt gaaactgaaa gccaacttga aaatggaggt   6000
atggcttata attcagctgt gctgaactgt aagtgattaa atactgtttc atcacatata   6060
cacatatata tacttatgtg gtatataggt cctgttctca ttgtacttat gatatttagt   6120
gttgttattg ccatatcctg tgggggaaa gctaagaacc tcagtaatct tagtaaatag    6180
tgctatcatc agttcattta ctcaagccag aaacacaaga gtcaccctca gtttctccgt   6240
catcccacat ttaatctatc gccatttctt acaggttcca tttccaaaat ataacatgag   6300
tccatctatt tctgtttcta cagtcatcac cctaggctaa gccactactt cagtagcctc   6360
tccattaggc ttagttcact ccagccctcc tccagtgtga ttcacacagt cctgcaggta   6420
gtcattagaa acataactta ggccctgtca ttgctctgct taaaatttgt ggtggcttcc   6480
catcatgctt agaataaaat ctgctttttt ttttttaagc atggctttgg tgctttacac   6540
aatttagtct ccatatcctc tttctagcct gatctgaagg caccatccaa gtatatgtga   6600
caaaacagca gtgaacatgg gggttatgaa cactacagag gaaacacaac ttgcccaata   6660
gtagcaatag gcaggtagac aggagggctt gcaggagga cactggaata gaattttgaa    6720
agtagagtgg aaatttccca gaaaagaaag aaaagagcct tccaagcaaa gagaatgttg   6780
tgttctagac tcagagacag gagggcacgt ggtgtgtctc aggcgctgca gtggttcacg   6840
gtgagctgtg atgagacttg agcctggaag ggagtggag cccatcagga agagtcttgt    6900
gtggtgtgct gagttggggt ttttaccttt aaagcaatag aatacccatt gatggatgaa   6960
atacgagatt aaattgattt tttacttggc tttgttttta aaggttgatg tatttatttt   7020
taagttttgt gtactcttga aaataggctt ttatattgtt tcaggatgct gggttttttt   7080
ttgtttaatt cacttgaggt tagtcttctt gtaaaaaccc tggttaactt attttttatgg  7140
tgctttggat tttttaggct tatgtgcctt cagaggaaga gaaaaatggt gaaattctgg   7200
caccaccaga aagtctgtgt gggggaaagc caagtggaat aggtgagctc tttagaatgg   7260
ttgttcacat tgttttgtt tttgccttgc atgtggtttt acctttctaa aaatcaatag    7320
ctgatgcata gtaacataca ggctctatta acttgcctct cacttttaa aatagattag    7380
ggagaattct ttactatttt atttttaaca tacacttttc ctcatgaaat gtcaatcaac   7440
attatgtagg gtaattgttt aaatctgatt accccaaat aataatgcaa aacgaaagtt    7500
gttttggagc aaactcttgc tctatcccag aaatgtttct ccatacccct gcctgtcccc   7560
```

2949

```
agatgctatt gcagcttact tccaaaaggc tagtctgagg ataagggccc actttacacc   7620
atttgctctt gtctcttgct caggctttc cccagtggct gcacagatac tgctctcagc   7680
ttgtataacc tcatctcagt ctctctgtgc aacattcttc actgtggact acagattta   7740
agggagatcc tcaatatcag aaaggataaa ggcaggagct cttaaacgtt ttggtctcaa   7800
ggaccaaaaa ttactgaaaa attaccgaag accccaaaga gattttgtta tatggcttat   7860
acctgttgac atttgccaaa taagaaatta aaattgagaa aagtaaatat taagtcacta   7920
ttaattcaat ataattaact cactataagt taacaactct tttttcatga aaaatggcta   7980
gattttccaa aaaacccaat taagtgataa aagtgacatt gttttgcatt tttgcaaatc   8040
cctttaagtc tggcttaata aaaaacagct atttctcgta tctgtttca cattcagtcc   8100
tgttgctgtt tattgttttg attaaagtaa atgaagaaaa tccaacatta cagatagacg   8160
gttgggtttt tgttttttgt tttgtttat tttgtttgt tttgtttgag atggagtctc   8220
actctgtttg ccaggttgga gtacagtggc gtgatctcgg ctcactgcaa cctctgactc   8280
cctggttcaa gctatcctcc tgcctcagct tcctgagtag ctgggattac aggcacacac   8340
caccatgccc agctaatttt tgtatttta gtagagatgg ggtttcacca tattggccag   8400
gatggtctcg atctcctgac ctcgtgatcc gcccgccttg gcctcccaaa gtgctgaggt   8460
tacatgcatg agccactgaa agccactgcg ctcggccaat ggttgggttt tagtagcctt   8520
ttcagataat tatgggtaca tcttagcctc tggaaaattc cattgagcac tcatgagtct   8580
gtaagacaaa taatgttagt ttggcccttg tggattcctt gatggaaagc ctcaggaatt   8640
ccccagagag gctggaccat actggcttaa ggaaatggaa atgagaagaa ctgtgacagt   8700
gaggaattat ttctaatttg tattacaaac atgattgtgt attttcttct gtttcccaca   8760
atattttttt ctaagtacta ggaactatag agtatgtgac caaatttaag ccagtcctca   8820
attttttcc acaatgttaa aatgtccatg caagtcaggt ggagtaaaca gtcagggtga   8880
tttttgttgt aaatacttat aacaaaaaac tctataggca tttgcttaaa gggactttat   8940
tagctcacaa aactgaaaaa ttcaggtaaa gcataatcca agaggatgca gatagctcca   9000
aagacacatc tagtagaaac tccattttat gtcttcttcc tcatcccctg aataagggtc   9060
attgctttct cattcatagc ctctactttt agctttggct taccattcct ggccaaaaac   9120
ctgagactta ttctgattta gcataagtac atgtgtccac cctaaacgaa ttactgtgac   9180
cagaggaatg tagcttacta gttgacttaa gtcaggtgct gtgttcctgg atccacatgg   9240
tattccagac cacagtctgg gctcttggga aaggtgccag gagggcaact gtaatgtcta   9300
ctgtagttgg attggctctt taaattattt ccctgacaaa catcaagtct gctacctgtg   9360
agtactaggg aaatcaacat ggaaatgact gatggaagta agtcattcac tgaaatcaac   9420
gtgcaaataa gtaaggtact ataataaaga tacgtacttg actgtgggag tcagcttccc   9480
tgaggtaggg cctcagggaa gacttgtgtt ggctcaatca atctcttccc ccaccccatc   9540
ttctttaatt atagaaagta aaatatacag aaatgcataa aaagtttccc actccctatg   9600
agtaaccacc ttcagtacaa taaaattata tttatattgt tatagaattt ttttcactc   9660
gatcatgtat tgcaggcacc catcattact ttattagcat atacagatcc actttctttg   9720
ttttaatagc taaataatca tccctaatac caattttagg tcttttaatg gcctcggggt   9780
ttctactgtt acagggctgc aacgaacttt cataatgcat atcactacat gtgttttacc   9840
aagtattttc ataaaattgg attgggggag ggagggtcaa agaatataca ggttaagtat   9900
ccctaatcca aaaggcttgg ggtcagaagt atttcgaatt tcagatttct tagggtttgg   9960
gaatatgtgc attatacctc attgagcatc ccgtatctaa aaattcaaag tcaaacttcc  10020
agtgagcctt tcctttgaga gtcatgttgg tactcagaga atttcagatt ttggagcatt  10080
tcagatttct cattttgaa tttgggatgc tcaacctgta tacgttttga attttttataa  10140
gtacttgtta ctcatttgag gctaaatatt gaataatgag taggtatgca ttaagtgtac  10200
aaggcaaaga gaagggcagt agatgtggaa tgattcagat taagtgaata gtgcatataa  10260
atcctcaccc atgactatct ggggaggttt ggggagtggg agcagttgag gaccttctta  10320
cacaaaacca tctgaaaggg tctcagaaga ctcgtaagaa gtgtcagcca gtcctggaag  10380
accacaccaa gacttggtaa gtcatttata ctgacatgtt aaaaccctga agatgactaa  10440
tctattcaaa acttggaaag atacattaat taaaatgtgc atgggtgttt tatactacaa  10500
ataattaacg tctcatttgt taattgtcaa gaagctaaca ttttggatt ctgaagtccg  10560
ttgttcccac agttatattt cagataactt tactgtgttt aggtacagtt cagtaagaga  10620
tctacttacg taaaaggaag ttgtttaaaa gaaaaatgtg tgttctgtca ttgttgagta  10680
gaaacagtag actttgtact tcatgtttcc aaagcatata aacagaccat tgctgttgga  10740
ggggatagga tctaactttt catttgacgc tattatttta aatgaaccag tgttatactg  10800
cagcttaaca gctacattaa ggtcttttac ttttttcta agcttcagat caccaacata  10860
gttaaatcac catagtgatg taatatacca ctgccgttat tataaaaaat gcaggcaaca  10920
ttaatttatg ttgtcttttt ctggtagtat attctggtag tacacatgg attgattgtg  10980
ggaaataact ggtcagattt ttataattta tgaaagcagc taagccactt ggtgacatag  11040
gataggttcc ctatcctaaa aatcttcaaa tttgtttctc tgcatttcag aaacaatatt  11100
cagtttcttt acatctcatt tttatttttg aacagctgaa ctccagaggg agcctttgtt  11160
ggtgaatgaa tcactaaatg taagtcactg taatggtttt gattttgtg gttattgggt  11220
```

2950

```
tttttaattt tattttttttg gagagctatt gaggaggagc catctgaagg ggttgcctgt  11280
gtatttctgt agtagccagg aggcatttgg tagtgtactc ttcatttgag ttcagcatcc  11340
tgacagcagc tttcactagc tcttttccat gttcacctat acccactgat aaagaacttt  11400
gaactttcta ttgtttatta ttataacggg attgaaaatt agattttgat gtcttaaatc  11460
atcctggtgc tatagacaaa atagatttta gtttgagaat taaatttcac tttatgtttt  11520
tagaaagctt ttctcaagat actaacctgt aactgctatg tgtacatatt ttttcccaga  11580
tgtggctctc ataatcccgt tcattcttga aagagtcttg tttttggtct ttctgtctta  11640
atgtatttat aaggaacctt gtattgtacc aggagtgaac attttataaa atgtttccaa  11700
atgtgcagac aactgcattc tttccaatgc tcctagagga attggggtac tatcagtgaa  11760
ccgcgggatc agagtacttc ctcatcaagc actctgtttt gtagctagaa actcatacac  11820
catatgctga ataagaagaa agagaaaagc accacttggt gtggttcaag tttgccatcc  11880
aagagttaaa aagattatgg ctgggcacag tggcatggcc tatagtccca gctactgagg  11940
aagttgaggt gggaggatca tttgagccca ggagtttggg tccagcctgg gcaacatagc  12000
ataatttttt atttaaaaaa aaaatttttt ttttaataaa atacacttta aaatttaaaa  12060
agactttaaa tggggttgga gcttaccgag ccagctggca tgttctccat cctacctcag  12120
tcccttgagt ccaccagcag ctgtctttttc cccagtcgag cataaatgtc ctttccaaat  12180
ttgtgcaaaa gtctgtagct aggacttagg atattatagg atattctgag cctttcccct  12240
cagtttaaaa aaagaaaaac agtagaattg ataagatttg ccaaatagga aatcttatta  12300
cagaatccta tagagttttt aaataaagaa aaaagaaaat catgcaggat ttggatggga  12360
agggaaattt atggaattca gaaaattttt ctcttatttta ttcttactct tttgccattg  12420
gctgctttaa ggacaggcag aataagcaca ataatttgtt aaactgaaat tttttcaaaa  12480
agaagatgct gcatgctttt gagcttctgg gtgaaattaa aaagaatatg taccccaatt  12540
cctttggca tttgtacaaa tagccaggtt atgtaaatta ccttctctct tctttctttt  12600
tgcctttaaa tttttgtgag actatccata aatatctttt atattgtata tttaggttga  12660
aaattcaggc ttcagaacaa atgaagaaat tcatagcgaa tcttataaca aaggaggtaa  12720
gttaatgaat ttcatagtta tagttttaat attatagtta acatttattg agtgtggtct  12780
gtataccagg ccttgtgtta attattttac atactttctc tcatttaatt cataaaaatt  12840
cagtaaagtg atagttaaca gcatcaggag tatagttgag gagaacgagt cttaggccag  12900
gtgacttatt ccaagccata cagcttaaaa gtgatgtctt gctttaaata gctactagaa  12960
ctttgccatt aatctcccag ttgactcaat ccaacataaa tacaaaacga atagccccct  13020
gtggattgca agtacccaac tgtgaaatgt gttaacttct gacaggcagt ttaggatggt  13080
agcatatcaa ggatgtcaca tttatgtggg tcttctccca ggggtgaggt ctggtggcca  13140
cacaacccgt gcaggctgcc aactctgaac agaaaattcc cttctcaaac agaacataga  13200
attttcttga tgcctactaa ttttgttaat ttcctattat aggagtgggg agagaggctt  13260
atttacttag acagttattt ttataatgta taccatattt caaacaaaag taaagcagta  13320
ataaacacct atgtgccccc aacctagttt tgccctatct tacaatttag tatatttgct  13380
tcacatacct tttaaaaaat gttaacagtt atggtggaat ccccatttac cccttcccaa  13440
tcccaatctc tttccttta atcccactcc aaaaggaacc actattctgc attaattata  13500
tataggtcca taaacaatat gtaacctatg ttgcctgctt taggtaaata tgtggtctca  13560
cgttacataa accctcccca ccttatttgc tcattcagca gcgttctaag attttgttct  13620
gttgatttat attaactcta attattttaa ttgcttttga atataccaca gttagtattt  13680
tttgcttcat ttgtacatta ttttgcacat gtaggtattt tgaaactttt cccaattaca  13740
aagaatgcta ctgtgtatgt tctcatacct ttcccagtgc ttatgtagtg tacttgtaat  13800
tctgggtatg gaattgctca gttataggca cctcttcaac tttactgcat gtgctaaatt  13860
gaccccaagt ggtgtaccag ttgtcactcc acaccatctg ccatatttgg tattgtttgg  13920
tgactgtttg ttagcctgat gattatgatg caatgattca ttattttcag tgatgcttct  13980
taatactgtg ttgctacaca aactggggg aagggccttg aagtcttctg tgtaaagtcc  14040
agtgttgtta ccccagacat gttactgacc ttcttgaacc ccattccctc acatctacaa  14100
gtggaaaaaa gagaatttaa ctgacagagt tgtgtggagg atcccatcaa aaatcatttg  14160
tgactatcta ccacaatgcc ctgtatataa ctggtactca ataaagttac taactcagtt  14220
ttctcccagc cccctaacac atacctaagt aagtattgga atataaaaat atttaagatt  14280
ttttttttctt ttttgtattt attactcaga gatatccagt ggtagaaaag acaacgcaga  14340
agccataagc ggtcacagtg ttgaagcaga tcctaaagag gtgcatttta ataaactcaa  14400
gtgtttgata ttttatacat aatattttca ctgtacacaa agaagggctt tagaaaggct  14460
ttatttcttt gtataaatta aatattaaat gggtatactg agagttccac atgtcacttt  14520
tacctgtata tgcccttttca atgtttaggc aatttggcag ttcccaggac tgtttggaag  14580
tgcccacgtt gtacagtcag aatggttttt catgcacctt tcatcaacca taagaagtcc  14640
atttttaata agccactaag acagtagaaa aatactaatt gtgatgtgcc atcagttgta  14700
agatatatat agcttgactt cagaaatggt gaaatgataa ataatttttt taaatgcgtt  14760
ttagaattat tgaaatatag tatgtagcta gaaacagcat gtgttgtatg aatttgcatt  14820
caaacccaga aaagagactg aagtttacaa aattagtcta atccaaatct aaatatcaag  14880
```

2951

```
tgttctagat tttttttct ttttttttt tttttgaaa cagtctcccc ctgttgcacg  14940
ggctggagtg cagtggtgtg aacgcttctc actgcaagct ccgcctccgg ggttcacgcc  15000
attctcctgc ctcagcctca caagcagctg ggactacagg cacccgccac cacgcccagc  15060
taatttttt ctgtattttt agtagagacg gggtttcacc gtgttagcca ggttggtctt  15120
gatctcctga cctcgtgatc cgcccacctg ggcctcccaa agtgctggga ttacaggtgt  15180
gagccactgc acccggccaa gtgttctaga tttttaaaaa atttatatat caacttattc  15240
caaaggttag aatctagtac agtgtgctcc tctttcagtt tatttgaatc aagattctat  15300
ggcctttgat atagtcattc ttaattccag gttgaagagg aagaaaggca tatgcctaaa  15360
agaaaaagaa agcagcatta tctctcttca gaagatgaac caggtatta tatttatgtt  15420
tctgttttag acatctttga aaatcattat ttttatatcc aaaagagtga gccaaaaaca  15480
tagagaattt ttgaggatag taactctcta ctttacaagt cttgaggcta atttgtttct  15540
agactggctt gatacctccg gagtcctttc tggaccccaa tctagaaact agattgcttc  15600
ctgcagaaga cccaaccgct ggatctcaga caaagacagg ctctctctgg aaccacaccc  15660
tggagcccag ccaggtgcca ctacagtctg tattttatat cataagcaga taccctacag  15720
agctagtgaa gcactttagt ccaaaagtgc ctctaacacc cattctgtgc ttcatactgt  15780
tgattttctc atggtctgta acggtgccct ctagtagaac tacagtgata gaagtcttgt  15840
acatttattt tgtctaatac agaagctact agccacatgt cactattgag cacttgaaag  15900
tggtcagtgg aaatgaaaga ctgaattttt aattgttttt taattatttt atatttcagt  15960
agccagatgt ggttagtgac tatcatgttg aacagtgcag tgacctttaa tacttgacac  16020
aaaggagaag ttcaatactt attgaatgac tacatgagaa agaatgagtg aagaatgaaa  16080
tatttatatt ttatattatt tggtagcaat ttaatgagtt cctgatgtat tcaggtacta  16140
tccatggtac attatacaca ttcccattta atctttacaa taaacctgta agttaggtgg  16200
tgttgtcatc ttatagataa agagattaag gttctgaaaa attacgactt tatcttcacc  16260
acataaatct gattccaaag cccatggtct caattactaa gctatacctc ttaggtggta  16320
actcatttag aaagttaaag tatctctgga aactatacgc taagcccttc ccatagaacc  16380
cactacttca ttggtgtcat gtgaacatat ggggattttt gtattttgtt ttatttttac  16440
tttgccaggg cgaaaggcaa gtgttcagtg ctcaaatcac atgatattat aaatatagag  16500
taacttttgg cttctctgta tcacaggcct aagaaagaag gctcaaacag tcttaaaata  16560
gaactatgca tttcattttt catttagctt ttgttccttt gtgattctgt ctaaactgat  16620
ttacagatga taatccagat gtcctggatt ccagaataga aacagcacaa aggcagtgtc  16680
ctgaaacgga gccacatgac acaaaggtat ttttccaca tattagtttt aagtttgggg  16740
tgggggtagg gaggcctaat tacagcattg taaatactta gtataatatt ttttcattt  16800
tactatccct cttttaaatgt ctctaataat aatcacttta ttataaaagg tgtctatttt  16860
ttagtctcct cccaaaaatc aaatgttgca ctttataatt cttaaactgc aagatcgtgt  16920
taattattac aatttagata taacattgct taggtttttg ttcagtagta gtattgattt  16980
cttgaggttt ctaaatgctt tcttccaaaa gtataatgtg ctttatcaca gatatacttg  17040
caccaaaata ttgaaataca gttattatta gtactctgct ctctagctta cctcctgtat  17100
tagtctgttc tcatgctgct aataaagaca tacctgagac tgggtaattt ataaaggaaa  17160
gaggtttaat tgactcacgg ttccgcatgg ctggggaggc ctcacaatca tggtagaagg  17220
caaaggagga gcaaagtcac gtcttaacat gacaacaggc aagagggcat gtgcagggga  17280
actcctcttt ataaaagcat tagatctcag gagacttatt cactgtcagg agaacagcac  17340
aggacaaacc tgcccccga ttcaattacc tcccactgca tccttcccac tacaagtggg  17400
gattatggga cctataattc aaaatgagat ttgagtgggg tcacagccaa atcatatcac  17460
ctcctgcctc taaaatctgg gtactctaag gattggcctc acccattgcc ttttttccta  17520
tggtttttatt ttcatcttat gactcacaga acctcctcac aaatttgtat ttgtgttctg  17580
ccgtctcttg ttgtaggccc agattttttc attccctact agatacctct tcttgggtgt  17640
tcttccattt ctgagactca gtactctaaa atttctcatt atctgtctaa actagttcca  17700
tcttttcctc tctctttctc taatttatat ttttataaat tattagacgc cttattccaa  17760
aagtgtttaa gtccagttat gaaaatattt gagctgactt ccagttctct aaaaccagac  17820
tttggtctct ttttttcccc agtaaccgaa gaactaaata aaaagtagga aaaggtttaa  17880
taacctaaga gggaaagtgg catattgtca tgaattttag ttggttctga ccaaaggaag  17940
aaacaggctc ttaaactatc cctcacccct g ccctgtccaa aatcaaaaat cctgagacaa  18000
tacttctaaa tttgaagaaa agcagattga aggggtatca tttcattttc tcttaaattt  18060
cgtgattttt taatgttaaa tttaaataaa atcaatttat tttcattaag cagttttata  18120
gacacagtat tttcagttac tacagaagaa tgttacatgg aaagctgtct gcaatagcat  18180
ttatttaata tcatcttaat attagtaatt tttggacagt aaattgggag tgatttcatc  18240
atttctgtta aagttttctg tgtagtaaat atgtgccatt ttataaaatc aataaagtca  18300
ttattctaaa atgtgtatag taagaccaaa agaccaaaat tgaatacgtg aaaaaattcc  18360
aggcactgga aaaataaaag caggaaataa aaagtgagtt gcgtgcgtgt catcaggatc  18420
tgattaagtg cttacaggac caagtgttgg ctctgaaaga gccagttcaa aaacagaaat  18480
gcagttcgtc caatggtttg aagactttg tgcaggacat cttcagccca ctatatgaaa  18540
```

```
cagataaaag tgtagatgtt ctggctgaaa tgagggagaa gaccccaaaa acttctgcct  18600
gctcctaaac tcgctccaac acacacacac acacacacac acacacacac acacacacac  18660
tctctctctc tttctctccc cgccacacac gcacacatgc tgactctctc catctcacac  18720
actctgtctc tctctctcac acacacacac acacagagca cttgaagagg tcctgagctg  18780
aaaatggcag tgcagcatga gtgtctcagt gaagcctcag tgttgatgtg ctgataacag  18840
agcaaatagg tttctccttg gctttcccaa acgagttgac cttccatcct ctaaatcaac  18900
accctcccaa attggatgta cgacaagcca tcagaatgtg agaagaaatg gtagaaccac  18960
gatttatata tgccttttat ctaaaaatct taaaaagtaa tctctactaa tatttactgt  19020
atagattgtt ggccctggtg ccatcactga aagtgagctc tcctctgaca tcacctgtta  19080
gtcttgcaca ttattgcatg tcttggacct agttatgtag tactgtcaaa gtaccttaag  19140
ggtagctggg agtcccacaa cacagaggac ttgagaatga gcccctcact tgtttgttca  19200
ctttcagcat tatatgactt aatagtttac agatgctcaa ctaaatgaat ttgcagagtt  19260
tgtttacctt gttttaattg aattgaccct cccaataccg acactggttt gaggtttcgg  19320
caaaaataac cacaacaaaa aaccccataa gacaaagata atatttgtaa tgcagataca  19380
aacaaataat aagagaaatg gctgagctga cacttctttt actaggaagt agcagaagct  19440
ctgtgtcatc ctcattgtta ggtaaaaaag aatgaagatc taatcatatc tgacatgaag  19500
tgggccagaa attccactgt ttcagtagac tgtgtgaaat gtggaattgc ttttatatcc  19560
atcccttcc agtccctgaa aggctatatc aaaacccaat gacattgaat gcatccaagt  19620
agggaaatcg ggggtgaggg catttcatta tagacccctt taaattttga accacaagaa  19680
tatatttcta ttaaaaaata agtaaaatta acattaatag aaatgaggat ttacaatttt  19740
ttataatggg ccattaaagt aaaattaaag ctttagtttc ctatttcatc ttgatcttat  19800
tctactttat gtattttgt ttatatacta tattagtatt atagttgaaa cattttggca  19860
tttcatgctg agaactttct tgccactatg gggggataat ttaattgctg aaagatcact  19920
gctccaagtc agcccatctg gatacccaga aattccctt ggcacctccc aaattattgc  19980
ttccccacat ctctcccctc catcactcca caaagataaa tatctgttgc cagtatctgt  20040
ccattcttcc tttggagttt gtcttaaaaa gacaaaatcc aagtagaggg aggagaagaa  20100
caatttctat tttgcaggaa agaaaatggc cttgatatgt tgtacttgaa ccttatctca  20160
tgcttttctg ttctcagaat gtttatttt tttatggtct cactagcagc aataatagtt  20220
acacttcaaa aacatttcc aaaaactatc cttaaaaaga gctaggaagt ttttttgaaa  20280
tagaaaggca aacttgtgtg gggaggatga atggacgaag gcttcagttt gaagaaggtt  20340
ctagtctttt tcaacttctc tataggaaga gaactccaga gatttggaag aattacctaa  20400
aaccagttct gagacaaata gcactacctc aagggtcatg gaagaaaaag gtgagtaaaa  20460
tatctgcttg ggtaaattga ctgagccttc aaagcagcca gcgtgtctct caaccgaaac  20520
gtctattttg ctcatttact tttcctgtg,t aataaagtgc ctcatgctta agattaatag  20580
ggctagggaa tcatttttaa tttggatcct gctatactca aagtgtgctg tttactagtc  20640
acccaaactc aggcttgtta attttgatgg tagaaacatg aaaatggagt gtgtggttat  20700
gtgtggctgc agctgtgtag gtcacctggg taaaggtggg gaaggctgac catggtcact  20760
agcattgaac aaagttcttc cttttctaca gatgaatata gcagcagtga aactactggt  20820
gaaaagccag agcagaacga tgatgacacc ataaaatctc aggaggtgag atgtgctttt  20880
cgtatttgtt tgttcacaat tatttaagca ctaaccaaat taaattcatt aaatactgtt  20940
atcttgagtt tttcttaagt actttgaaga agctgcggtt tttttagtgc aatggaacac  21000
catttcatac agtgcatttt atcagtgtca ttttgattaa tttttttctc ttcattctttg  21060
tttcttcaaa acatttgtat gagacccact tatgtcatag ccagatagga tcagcttagt  21120
gctctacgtc agcggcaatg tcaggttcct ggcctggcaa tgctgagctg ccaggccagg  21180
cacatggcag caaacaggag gctgtctgag ccatggagtc cagctaggat gaaataggaa  21240
cagcagcagg gtgtgcagaa ggcatgcagg gaatactcga ggggacctag ttcatgaggc  21300
aaggtcatgg attcctggag gctgcatgca cagacagagc atcccagccc tgcctgctgt  21360
aagcccatag attttcaggg agcctgtgga gcagagaatt gcagtggctt gagactgagc  21420
accataaatc aagagacaca gcctgtgcac tagccgggtc tagataacca ttgccaggtt  21480
tgcccattgt taaatcattt gttattgttc tgtctgtatg atatattcag tggacccctt  21540
tattttttat aagggtatca tttggtcaca actaacttgg gccaaatccc aaattaaatg  21600
gacatacata cttattacag aagtaaaagg ttacactttg attacttcat tgtctcaaaa  21660
tcctcatggc tccattaatt tatgacagtt agtgatattt atcaggttga agaagcaatg  21720
gtgagatcag taaataaaac actaagccct acatcacata ttttaaagt gacaaagcta  21780
ggatttgagg tctcttagac aggaactcta aatctgattt ttgagaaaac tttatataat  21840
aaaggataaa attttttttc ttattgctgt tgttgttttt tatttcccccc ttaggaagat  21900
cagccaataa ttattaaaag gaaaagagga agacctcgca aataccctgt agaaacaacg  21960
ttaaaaatga gtaggtactt ggtgtgtttt cagttcacac acaagaaatt ttcgaaccga  22020
ttttctaagt gaattttttt tttttagaag acgactccaa aacagatact ggcattgtca  22080
ctgtaagtaa ttgcaaaaca tgacaatttc aaatacttgc tcttaacctg aaaaacggta  22140
taatgcaata tctagtattt tgaactttat ttttttttact tgaaaagctt taaaagactg  22200
```

```
agtaaccatt catatatttt gattactagt atctttgtgt aaacagagtt acattagttg   22260
ttcttcattc tgattccatt ctaattcagg agtttgatta tttaaaaatt atctagggat   22320
ttaacttctt gtggccaccc ttggttaaaa tatacaaatt agctatttta taagattttg   22380
agatagtggc ttctttatag agacttgtga gttgtcttac catcttacta ctttctttgg   22440
aattcttttt gacctaaaat attcactgag ttcagtgcag gaaactcctt agtgatattt   22500
tatgtttgaa cgttctttat cttttgaccct gacgtatacc caccaaaatc attgtatcag   22560
gattccatcg catgcatttc aatggattat tataaggagg acattacaag aagagcattg   22620
taaggaggac agacgtgtgt tcactgacct aacaaaacaa catgggattc aagcctcagc   22680
tttgtcactt atcccgagac ctgtgactta gggccaatca tgggaccctc tggtgactca   22740
gtttccttga atgtgaagtg gtatgatgcc tgcagtactt atctcataga attattataa   22800
gacaaaacca gagaagcaca tgtgaatgca tttagcaaca tgtaaaatgg tttgccttgg   22860
gaaacattaa ccacagtggc catgctgcat tgcctcactt ctcatcctgt agcatcacaa   22920
aagggaagtt acttattgga aagtctgtat ttagaagctc aggcatccat gtttgctagg   22980
tatacttaat caattacaga aaataggtct caaatacgcc tatgtaaata aagatcctat   23040
accaccttta catcattgat tgcatttcta tgtgatgatt ataaactgct gatttaaaat   23100
ttttttttgt ttgtttattt aaacataggt agaacaatct ccatctagca gcaaactgaa   23160
agtaatgcaa acaggtatgt acctaccgca ttcctctgtg tgttatctga gggaggggca   23220
ggagaggctg gctgttggag aaggtttgga acttccattc tgcctctcat tgaagtgggt   23280
ggcccccttg gtaaaaataa ttgtccttgt atctgggaga gactgtatct attggcttac   23340
agagcccagg actcaagaat tgaaattgtt ttgactattt ttctcctcat tccaaggaga   23400
agaatatatt ccaaaatgtt gataatgatt agctctggag ggtggaataa tgggagcatt   23460
ccatattatt tgtcaatatt gcttgcattt tccagatatt ttttgcaatg tatatgtatg   23520
cattttgtgg tctaaaattt tttacataaa acaagaggtg ccattagtga gctttgaagt   23580
gttgatatca acaacaaaga ttaatgtgac agctattttg tatcaaataa atagtatggt   23640
cagactgaga aagtacatat tctcatcagc aaataaagca aataggtaat atatagttgt   23700
ttccacattt aactatgtgt gatcgtactt catttttct tgtgtcttgg taaattaagg   23760
ttcatttatt ttttgaaaga ggaaggagat tatgcacgtt tggtcttaac cagttttat   23820
taataatttt gtagtatttt gaatccatac aagaaatctt tataacttca gtcccctta   23880
aggactccaa ttaaagctgt gttattcaga atgtttctg aatgtgggta aaatgatgac   23940
cattttaaga cagtcctctt tgttgacatt tctattgggt taactttttc atcttcattg   24000
gtatttaaaa cttgcaaaaa aggacaacta ctaccgtcac taaaaagaag tacctttgag   24060
tttttgagtg cctgatgaac atccccataa tttcagcttc aactagtgca ttgaactaat   24120
ctttactttt cttaccatga tacagtctca gaaaattgta acatctgcag aaagcaaatg   24180
cataaagaat gtatgtatgc accctacaaa caggtcataa aatgtacttt tttagctacc   24240
atgatgtatt tggagtcaaa agaattctac ctgtcactct acttgttagt tatgtgactc   24300
taaacagatt actcaagcct ggtttgttca gactataggc tgggatcata atacttgcag   24360
agctacactg aaattgaaaa gtccatatta gccaggtgtg gtggctcaca cctgtaatct   24420
cagcactttc agaggcctcc acaggagaat cactggagcc caggagttgg aggctgcagt   24480
aagctataat tgcaccactg cactctagcc tggccaacag agcaagaccc tgtctcataa   24540
aaataaaaca aaagtaccag ttatatatcc ttattcaaaa tgcctaggac accagaagtg   24600
tttcagattt tgaatttatt cagattttgg aatatttgca tttcccagtt gagcattcct   24660
aatcaaaatt caaaatgctg caatggcatt tcctttgagg gtcatgttgg tgctcaaaaa   24720
gttttggatt ctagaacatt ttaaattttg gatcatcaga ttagggatgc tccgcctgta   24780
tatcattcca acttgcagtt actggtacat attgtgggct ccttatatgc cccctttttt   24840
cttctttttt ggggtcagaa catttaagct gaaagggaat aagagtagtc taacccagcc   24900
gggcgtggtg gctcacacct gtaatcccag cactttggga agccaaggca ggcagatcac   24960
ctgaggtcag gagttcaaga gtagcctggc caacatggtg aaaccccgtc tctactaaaa   25020
atacaaaaaa ttagctggac atggtggtgg gcacctgtaa tctcagctac tcaaggaggc   25080
tgaggcagga gaattgcttg aacccaggag gcggaggttg cattgagcca agatcacgcc   25140
actgcactcc agcctgaatg actgagtgaa actctgtctt agaaaaaaaa aaaaagtagt   25200
ctaatccaac ttcttatttt gcagctgaaa aaactgaggg tcagcaaatt taaataaaat   25260
ctgaaatgaa aacttatgtt tcgtgactca caatccaatg tgatctctgc taggtattct   25320
gattctatct ttgcttgact gatacaagat aatgatgaaa tgtataacaa tgtattaata   25380
ctgatacatt gacagacaag ccaggctgat tgttgaaatt taaatttaca gtaataaaat   25440
attaatgcag agatttccct tttcttaaag atgaatccaa taaagaaaca gctaacctac   25500
aagaaagaag tataagcaat gtaagtgtta aatttcttat caagatatgt tgtttagaaa   25560
tcaacttaaa tgctcagctg accaccctt tgactttaat tttattgctt ctaggatgat   25620
ggtgaagaaa aaatagtaac aagtgtgcgt cggagaggaa gaaaacccaa acgttctctc   25680
actgtatcag atgatgctgg tatgtttcta gcaaattctt aataagtctt attgtttcaa   25740
aaccaccttt ttaaagagtt tttctttgaa tgaggaaaaa tccaatgggt acagctaata   25800
ttaatattat ataaatatgt gtgaaatagg tctaatcccg tgtcagaaat ggtacatccc   25860
```

```
agatgctttt ctgagtacat gtcaattttt tatgaacgct ggctgtgaac tgcatatgta 25920
aactatccaa aatgtgtttg agattaagtt aaacagttgt gaattgcaag tgctgaaaca 25980
aaaaggaagt ggaaaaccat ttctctgcct ccaagtccct aatatcctaa gttctaaact 26040
ccatgactct ctctcttgga agtatctttg ggaattgtaa aatccaggtg ttacccttct 26100
atttgaacag aatcctcaga gccagaaaga aaacgccaga aatcagtttc tgatccagtg 26160
gaggacaaga aagagcagga gtctgatgag gaagaggaag aagaggaaga ggacgagcct 26220
tcaggagcca ccacaagatc caccaccaga tcagaggctc agaggtaatg ggggcagcac 26280
agagctgcca gagaccttca ccagcttctc catctgaaaa ttgctctggg ttttctggga 26340
ttctctttga actgaatcat tcatgctgca gtggaagttc ttcccttca tttttattgt 26400
tagcagtggg cacatagttc ttggagaaca cattttctgt cctaaaccat tttgggggat 26460
tgcctcaaag tctttaccag gttttaaatg cctatttggt ggaacccatt caattcctta 26520
caaatatatt ttttgagcat ctgccatcct tcagatgtcg tattgagcac cattcatgaa 26580
tatggacata cataaaacat catccctgct ctcagcatac ttaattcaac ccagaaagca 26640
ggaggaacca ggcccacgca ccgtcatcac atgcatctca ccagtgctat gcaataggtt 26700
gatcatagga aagtgcccaa atttgaccat ttttgaggta atttcatata tttcccaaaa 26760
tgtgttctct caaaccctat tgtagccaga aacctctgag aaaaagagta ccacggtcag 26820
atgagtttgg gaatgtcatt gaattctctc tccttcctca gttacatgtt cattaaaata 26880
ttaagggttt ggcaaactcc agggctgggc gcggtgactc acgcctgtaa tcccagcact 26940
ttgggaggcc aaggcaggcg aatcacgagg tccggagatc gagaccatcc tggtcaacat 27000
ggtgaaaccc cgtctctact aaaatacaaa aatcagccag gcatggtggt gagtgcctgt 27060
aatcccagct actcgggagg ctgaggcagg ggaattgctt aaccgtggga ggcggaggtt 27120
gcagtgagct gagatggctc cactgcactc cagcctggtg ttagagcaag actccatctc 27180
aaaaaaaaaa aaaaaaaaaa aaaaagggt ttggcaaact cctaaaggaa agaagcctgt 27240
tgaactttgt ttaaacaagc attatttgct gataccactt ttctgttgtt ggcctatatc 27300
attataccttg ttcacatcat ccagtgttcc tttccccatg gcacatttga gaaatggtac 27360
ataactgtat tgtctcatcc taaccgttaa tcactttccc aaacatgaat attttccagg 27420
ctgagcacgg tagctcatgc ttgtaatccc aacactttgg gagaccaaga tgggaggatc 27480
acttgagccc aggagtttat gagaccagcc tgggcaacac agggagaccc catctctaca 27540
aaaaaattag aaaattagct gggcatggtg gcatgcacct gtagtcccgg ctacttggga 27600
ggctgagatg ggaggatcgc ttgagcccag gagcttgagg ctgcagtgag ctgtgatcgc 27660
accactgcac tctagcctgg gtgacagtga gactctgtct ctgaaaaaat atatattttt 27720
ttaatttta attaatgtga tttacaagct attaatcttg gtatcatctt gtttaatttc 27780
attattcaag attgatcaaa aagttcagga agatttattt caaaaataac actaacagca 27840
taatataata gtatcttgtg tttacataaa gaactaaaat cggggctggg cacagtggct 27900
cacacctgta atcccagcac tttgggaggc tgaggccggc ggatcacgag gtcaggagtt 27960
cgagaccagc ctggccaata tggtgaaacc ccatctctac taaaaatata aaaaattagc 28020
tgggtgtggt ggcacgtgcc agtaatccca gctacttggg aagctgaggc aggagaatcg 28080
cttgaactcg ggaggtggag gttgcagtga gccgagatca cgccattgca ctccagcctg 28140
ggtgacagag tgagactccc cgtctcaaaa aaaaaaaaca aaaaaaaca aaaacttaaa 28200
atcaatctgt ttctaattcc tccagactta acacagtatt agccatttgt gccatggttt 28260
gatttctcaa agaatcagat tttagagcca aaggactcta gaagctcaca cggctaaagt 28320
tataaggtgg tctcatattt gttttttttag gtggagcagc tcacataaat agaaaagaag 28380
tcacagaatc caaattgctg ctgctaggag agggtgaggg tgctggagcc caacacccat 28440
gcatttgggt atagcatcca tcccaccaga attactgctt ccctttaaaa cagttgtgga 28500
aagtagggct caactcagag aaagttccat aggccttcta gccatcttcg agtgagtgtc 28560
tagaaattgc tctcagattt gccttttata aattctttaa aaataaatct tatttgattt 28620
atatggttct gtaatcacct ggattatcaa agctcttcct tcatgcactt tataatataa 28680
acttttgatt tacaaatgag ttgtttttctc tctagtttag attccttggc attggttgat 28740
cagtcccagg gctctggtgt cttcataatt ttacaaattg tctgagttgg gtgggctctc 28800
agtggtcatg tagtaccaat agccagtcag tgcctgagtc actgcacctg cagctcctct 28860
gaaagggtct tcctgctttt gcatggacct cagtggcagg gaaagccaca tcctccttag 28920
cattctctga cttgtgttca gtagaagccg gcctccctgt ggcttctact cttgattcta 28980
gttcgacttt cagaaccttc tgtctaattt tgccttacat atttgagggc agcttccagg 29040
tcttctctgc ttgcttattg agccccttca tcatccctgt ttgtgctcat cagttacctt 29100
tatcctcttt tagaagcaaa tgtgcagctg ggcgcagtgg ctcatgcctg taatcccagc 29160
tactcaggag gctgaggcag gaagattgct tgaggctggg agttcgagac cagcctaagc 29220
aacatagcaa gaccctctta aaagaaaaaa ttaaattaaa ttaataaaat ataaaagagg 29280
ccacgcacag tggctcacgc ctgtaatccc agcactttgg gagtccaagg ctggtggctc 29340
acttaaggcc gggtgttcaa gaccagcctt gccaatatgg tgaaacctca tctctactaa 29400
aagtacaaaa agtagccgag cattgtggca gactcctgta atcctagcta cttgggcagc 29460
tgaggcagga gaattgcttg aacccgggaa gtggaggttg cagtgagaag agattgtacc 29520
```

2955

```
actgcactcc agcctgggtg acagagcgag gctctttctc aaaagaaaga aagaaagaaa 29580
gatagataga tagaggctct ttctcaaaag aaagaaagaa agaaagaaag atagatagat 29640
agatagatag atagatagac agacagacag acagacagac agatagatag aagcaaactc 29700
tgtataccaa gtgtggtcta atgaatccag aagaggactg ttctacctta ttttctggat 29760
attgttcttc agtgtgcatc ctcattactg agcctcaaat tgaaaaatac accagctaaa 29820
caagttcctt tttcagagtt tttactggaa tcagaattcc ttatctgatt cttgtgcagt 29880
tgactacttg ggccttaaca cttagccttg tgaattgtac tttcgttaat cttggccctt 29940
tattctaccc tgatgagctc ttttgtaatc tttattttgt cggccagtat attttctatt 30000
tttcgcagat acatcttttt tctaaatcac aataaaatat catgcacagt aagaacaaag 30060
atagtgtcac acaagcagag gtagttgtag atgacattaa gatcgactta tcagcagtgg 30120
tcaggaaaac caaccatttt tctgatttta gttcctattg ttctgacttg cccacaagga 30180
gcctcatact tcctacagag ttccagggac tggagtattc agtgctacca ttgcccagtg 30240
tttctataat ctgtttcaga aagcaacata gcaagccatc tgcacgtgca acatccaaac 30300
ttggcagccc agacacagtt tctcctagaa atcgccaaaa attagcaaaa gagaagttac 30360
ctaccagcga aaaagttagt aactctcccc cattaggaag gtaagtccct gcttacactt 30420
caagccattt ttaaccccct aagactattt ttggtacaat aatgctttct tcctaatttc 30480
ctttaagatt ttgtctcacc aaataactgt ttttggggat cattggtttc caagaagaac 30540
aggaagggct gcagaaggtg tctgtgtggc ctcaccagtc tggccttgcc gcagtggact 30600
gccacacagg cttgtccttg acacctgtga gccttatctg ccttctccca tccaccaaga 30660
ccaaaggcaa ggcagtgtgg taaagcattt aacagcccag aatcatttct gttttagcta 30720
gagcattgga gaggtgatga ggtgataaag cttcctcttt caggcacggc ccctgccagc 30780
ttacaccttt cactgcagcc ttactggtct tactgcttcc cagaggtggt cctgagcctt 30840
cctttcttgc ctttgcttga gccagtgagg agtgtcctca ccaccagcac ccctagtaag 30900
tcagatcctt tccgtcccgc ttcagcccat tttcatctct tcttgctgca cttctggtca 30960
gtactgggca cttgagatgc cacatagcat tggtttggta tattcctttt atttacccct 31020
ctgagctcta ggtttctttc ttgagatagg aatttgtcat actttctata cattatcata 31080
ttcaaaaata aaagactctt cactgtacac aaaaactgtt ttgacctctt accacatttt 31140
catcttcaca gcatacttgt atgtatgtgc tgttttccgc acattctaga aacgaaagca 31200
aactatagtg ccaggcagtt tcacatacat gctctcattt aaccctcagt gagtgaattg 31260
taatagttac tcttatttta tatgtgaggg aaagaatctc aggaaggttt ccatgcatac 31320
tactcaaaat tgaacatgca gtcaaatcac ttgaggctgt tggtaaaatg cagatcctgg 31380
gtctgtaagt ctaggctggg gcctgagagt tggcatttcc aacaagctcc tcagtgacca 31440
atgcccctcc tcacagacca cattctgggt ggactagaag ggcctggata aactacgaag 31500
ctcacatggc tggggagaag cagcctgact cagagcttct gttggctgcc acttggcccc 31560
cagcacaata ctgcgcacgg cacctttact gaagaggtgt tcattgagtg gctggtggct 31620
ttccatggaa acagtttgaa atggattatc aacaaacaca ttttcagtca ttgtcaacac 31680
atgtcaaaac cacatcatct gcaacaattt ttgactcagt ttatttactt ttgctgtcaa 31740
acaagaaacg gaagacgtgt cttcatatca ctaagagtcc catttctcca tctcctgcaa 31800
ttttggtttt ccaactcttt gattcattga caggacattt actgcccgct tgccatgtgt 31860
tgggcattgc actaggcact ggagttagaa aaatgaataa atctcagcag ctgccctaga 31920
gaatcatcgt gtctaatggg ggagatatat gtgtataaga ctttcaaact tttttggcaa 31980
caacccacta taagaatatt ttgcaataca gctggtgctc acattcctgc tgctgtaact 32040
gaaacaaaat ttcatgagtc aaatttaata gatgtgatat gagtggtatt ttctgttgtg 32100
tcctattaac atgttgtttt aaaatattga ttgtaacttg cagtttgaaa aaacacagca 32160
gatgaatcac aatggtaaat gctgtggtaa agacctaaag tcttcatatc aataaagtca 32220
catttctctg tggggattc caaagatggg gcatcttgct ttgtgatgtg gaaggtgcag 32280
gactacaggc ccagatggtg cacaagtaga aggcagaact ataaaaggct ctggatgatt 32340
ttctcctgaa agcatcagag acccaagagg aacttcatac atctctagga cagtaacatg 32400
attaattgga gtttccaaca aataatttta atcacagact atatcaacag ggtatgctgg 32460
tgatagggag attggttaga atgttcttct gaaattcccg tgccttttct aacacaggta 32520
ttttctgtaa tactgtgcta cgaaacatga ttttgcactt ggtccaacct agattgcagt 32580
cctgctgtgt tcttgctagt tgtttgaact tgggacagtc tgtatattgg tgggacccgc 32640
tgttgatgtc tttgttttct agatgaaaga actagggccc agagaaggaa gtggatttga 32700
gcaccatcag cacctagagt gtggtagagc tggaaccaga gcacaggctt caaacttctc 32760
ttccagtgtc ctgtgtttgt gtgtgaggtt gacagcaaat aaccagttag ttcaagctct 32820
tcgcgaggta gctcctttc atgtatataaat gttactgggt ttttctcttc ttagctgtca 32880
agttcaaaac tcttctgttt tttaaggaac tcccaagtta tttgaagcag ctgctttaa 32940
acctcaccat tgccttgact ttgcttaatg cagatcaaag acacagctct ccccttctat 33000
caagcgcaag agagaagtca gccctcctgg ggcccgaaca agaggccagc aaagggtgga 33060
ggaagcccct gtgaaaaaag cgaagcgata atcctgacca ctgctgccct aggcttatgg 33120
aggaacacgg tggagaggaa agagacatgc cttggtggcc ataggcttct ctttaaccag 33180
```

2956

```
gaaaaagata tgcatgtgct gtaagtccct aggtgcaagc ttttttcttgt tatgttttaa    33240
acagctttat aaactattgt tcatagaaga tattatgtac atttatttca gataaaggac    33300
aataagttta ctttgtatct gaactcaaaa caaagtagtt gtatatttta acattcaaaa    33360
ttgggatttc ccaatgtgac acatcatgaa tgcaaacccc tccagcccat cagacgccag    33420
gctgcctact ggtaatctgt gtatagtata taaacatgta aaaataggtt gtatttttact   33480
ctatgtatga tgctaatcaa tgaacacttt atttatttta cagagaaaac ttatctgtga    33540
actttactat atatctgttt attttacttt attttttttt taaataaaaa gggtttttaaa   33600
tgctatgcag tcattagtag aaaattttttt aggactctgc ctgctctgta actatcttaa   33660
tatgatctgg cagaaactcg catgtatcca agtaaagtag tttagctaaa gaaaggttct    33720
tcattgcttt tctgttcaca gttgtggctc tgttttttaa gaatgtaact tgtttttaga    33780
ttatacttgc atctgtgact ttactaccag ccacgttgac acaaaacagg ttctggttca    33840
ggtaaagttg cgtcagtcac ctgcagcaga aatccctctt cattcctctt ctctgtgttc    33900
attcctcttc tgtgctgttc tgaagcttct accaatactc tttccatatt gtctttttca    33960
gtgaagagaa atgcattcaa gattaggtcc ctcctgtcta tccagtttca ggattttatg    34020
ttgttttata cacagttatt tcagtataga aactggcttt attgccaagt gtttttttaa    34080
acatgtttta actctcatat gagcaaactg tccaacttca gttttcata agattaaact     34140
tcttacgatc aaatttgtct cttgcaatga tgtgatgagt tgccaaataa ttgagattat    34200
tttaaaatgt tttgttcata ttcttgtttt ataattaaaa tttacattca gtgtgtatgg    34260
gtttttttttt ttattttgac tcttaatgta aggtggatat ttctgtcatt ttacatggtt   34320
tcttactgag attttatata taaattataa aatgtttacc aaaa                     34364


<210> 6035
<211> 323
<212> DNA
<213> Homo sapiens


<400> 6035
aagagtggtg atatgacatt gatccctgaa caagagccaa tggaaattga ttctgagcca    60
ggtgttgaaa atgtgtttga agtatctaaa acccaagaca accgcaataa taattctcag    120
caagacattg actctgaaaa tatgaaacaa aaaacttctg ccactgttca aaaggatgaa    180
ttgagaactt gcacagcaga ttcaaaagca acagctccag cttataagcc aggccgtgga    240
acaggagtta atagtaattc tgaaaagcat gccgatcata gaagcacctt gaccaagaaa    300
atgcatatac aaagtgctgt gtc                                            323


<210> 6036
<211> 640
<212> DNA
<213> Homo sapiens


<400> 6036
aaattgtaag cgttaatatt ttgttaaaat tcgcgttaaa tttttgttaa atcagctcat    60
tttttaacca ataggccgaa atcggcaaaa tcccttataa atcaaaagaa tagaccgaga    120
tagggttgag tgttgttcca gtttggaaca agagtccact attaaagaac gtggactcca    180
acgtcaaagg gcgaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccct    240
aatcaagttt tttggggtcg aggtgccgta aagcactaaa tcggaaccct aaagggagcc    300
cccgatttag agcttgacgg ggaaagccgg cgaacgtggc gagaaaggaa gggaagaaag    360
cgaaaggagc gggcgctagg cgctggcaa gtgtagcggt cacgctgcgc gtaaccacca     420
caccgccgc gcttaatgcg ccgctacagg gcgcgtccat tcgccattca ggctgcgcaa     480
ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta cgccagctgg cgaaaggggg    540
atgtgctgca aggcgattaa gttgggtaac gccagggttt tcccagtcac gacgttgtaa    600
aacgacggcc agtgaattgt aatacgactc actatagggc                         640


<210> 6037
<211> 606
<212> DNA
<213> Homo sapiens


<400> 6037
```

2957

```
gttatatttt tgttaratca gctcattttt taaccaatag gccgaaatcg gcaaaatccc      60
ttataaatca aaagaataga ccgagatagg gttgagtgtt gttccagttt ggaacaagag     120
tccactatta aagaacgtgg actccaacgt caaagggcga aaarccgtct atcagggcga     180
tggcccacta cgtgaaccat caccctaatc aagttttttg gggtcgaggt gccgtaaagc     240
actaaatcgg aaccctaaag ggagcccccg atttagagct tgacggggaa agccggcgaa     300
cgtggcgaga aagkaaggga agaaagcgaa aggagcgggc gctagggcgc tggcaagtgt     360
agcggtcacg ctgcgcgtaa ccaccacacc cgccgcgctt aatgcgccgc tacagggcgc     420
gtccattcgc cattcaggct gcgcaactgt tgggaagggc gatcggtgcg ggcctcttcg     480
ctattacgcc agctggcgaa aggggggatgt gctgcaaggc gattaagttg ggtaacgcca     540
gggttttccc agtcacgacg ttgtaaaacg acggccagtg aattgtaata cgactcacta     600
tagggc                                                                606


<210> 6038
<211> 628
<212> DNA
<213> Homo sapiens

<400> 6038
aagcgtaata tttgtaaaat tcgcgttaaa ttttgtaaat cagctcattt tttaaccaat      60
aggccgaaat cggcaaaatc ccttataaat caaaagaata gaccgagata gggttgagtg     120
ttgttccagt ttggaacaag agtccactat aaagaacgt ggactccaac gtcaaagggc      180
gaaaaaccgt ctatcagggc gatggcccac tacgtgaacc atcaccctaa tcaagttttt     240
tggggtcgag gtgccgtaaa gcactaaatc ggaaccctaa agggagcccc cgatttagag     300
cttgacgggg aaagccggcg aacgtggcga gaaaggaagg gaagaaagcg aaaggagcgg     360
gcgctagggc gctggcaagt gtagcggtca cgctgcgcgt aaccaccaca cccgccgcgc     420
ttaatgcgcc gctacagggc gcgtccattc gccattcagg ctgcgcaact gttgggaagg     480
gcgatcggtg cgggcctctt cgctattacg ccagctggcg aaaggggggat gtgctgcaag     540
gcgattaagt tgggtaacgc cagggttttc ccagtcacga cgttgtaaaa cgacggccag     600
tgaattgtaa tacgactcac tatagggc                                        628


<210> 6039
<211> 640
<212> DNA
<213> Homo sapiens

<400> 6039
aaattgtaag cgttaatatt ttgttaaaat tcgcgttaaa tttttgttaa atcagctcat      60
tttttaacca ataggccgaa atcggcaaaa tcccttataa atcaaaagaa tagaccgaga     120
tagggttgag tgttgttcca gtttggaaca agagtccact attaaagaac gtggactcca     180
acgtcaaagg gcgaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccct     240
aatcaagttt tttggggtcg aggtgccgta aagcactaaa tcggaaccct aaagggagcc     300
cccgatttag agcttgacgg ggaaagccgg cgaacgtggc gagaaaggaa gggaagaaag     360
cgaaaggagc gggcgctagg gcgctggcaa gtgtagcggt cacgctgcgc gtaaccacca     420
cacccgccgc gcttaatgcg ccgctacagg gcgcgtccat tcgccattca ggctgcgcaa     480
ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta cgccagctgg cgaaaggggg     540
atgtgctgca aggcgattaa gttgggtaac gccagggttt tcccagtcac gacgttgtaa     600
aacgacggcc agtgaattgt aatacgactc actatagggc                           640


<210> 6040
<211> 513
<212> DNA
<213> Homo sapiens

<400> 6040
gagtgttgtt ccagtttgga acaagagtcc actattaaag aacgtggact ccaacgtcaa      60
agggcgaaaa accgtctatc agggcgatgg cccactacgt gaaccatcac cctaatcaag     120
ttttttgggg tcgaggtgcc gtaaagcact aaatcggaac cctaaaggga gcccccgatt     180
tagagcttga cggggaaagc cggcgaacgt ggcgagaaag gaagggaaga aagcgaaagg     240
```

```
agcgggcgct agggcgctgg caagtgtagc ggtcacgctg cgcgtaacca ccacacccgc    300
cgcgcttaat gcgccgctac agggcgcgtc cattcgccat tcaggctgcg caactgttgg    360
gaagggcgat cggtgcgggc ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct    420
gcaaggcgat taagttgggt aacgccaggg tttttcccagt cacgacgttg taaaacgacg    480
gccagtgaat tgtaatacga ctcactatag ggc                                 513


<210> 6041
<211> 612
<212> DNA
<213> Homo sapiens

<400> 6041
ttcgcgttaa attttttgtta caatcagctc attgtttaac caataggccg aaatcggcaa     60
aatcccttat aaatcaaaag aatagaccga gatagggttg agtgttgttc cagtttggaa    120
caagagtcca ctattaaaga acgtggactc caacgtcaaa gggcgaaaaa ccgtctatca    180
gggcgatggc ccactacgtg aaccatcacc ctaatcaagt ttttggggt cgaggtgccg    240
taaagcacta aatcggaacc ctaaagggag cccccgattt agagcttgac ggggaaagcc    300
ggcgaacgtg gcgagaaagg aagggaagaa agcgaaagga gcgggcgcta gggcgctggc    360
aagtgtagcg gtcacgctgc gcgtaaccac cacacccgcc gcgcttaatg cgccgctaca    420
gggcgcgtcc attcgccatt caggctgcgc aactgttggg aagggcgatc ggtgcgggcc    480
tcttcgctat tacgccagct ggcgaaaggg ggatgtgctg caaggcgatt aagttgggta    540
acgccagggt ttcccagtc acgacgttgt aaaacgacgg ccagtgaatt gtaatacgac    600
tcactatagg gc                                                        612


<210> 6042
<211> 640
<212> DNA
<213> Homo sapiens

<400> 6042
aaattgtaag cgttaatatt ttgttaaaat tcgcgttaaa tttttgttaa atcagctcat     60
tttttaacca ataggccgaa atcggcaaaa tcccttataa atcaaaagaa tagaccgaga    120
tagggttgag tgttgttcca gtttggaaca agagtccact attaaagaac gtggactcca    180
acgtcaaagg gcgaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccct    240
aatcaagttt tttggggtcg aggtgccgta aagcactaaa tcggaaccct aaagggagcc    300
cccgatttag agcttgacgg ggaaagccgg cgaacgtggc gagaaaggaa gggaagaaag    360
cgaaaggagc gggcgctagg cgctggcaa gtgtagcggt cacgctgcgc gtaaccacca    420
cacccgccgc gcttaatgcg ccgctacagg gcgcgtccat tcgccattca ggctgcgcaa    480
ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta cgccagctgg cgaaaggggg    540
atgtgctgca aggcgattaa gttgggtaac gccagggttt tcccagtcac gacgttgtaa    600
aacgacggcc agtgaattgt aatacgactc actatagggc                          640


<210> 6043
<211> 640
<212> DNA
<213> Homo sapiens

<400> 6043
aaattgtaag cgttaatatt ttgttaaaat tcgcgttaaa tttttgttaa atcagctcat     60
tttttaacca ataggccgaa atcggcaaaa tcccttataa atcaaaagaa tagaccgaga    120
tagggttgag tgttgttcca gtttggaaca agagtccact attaaagaac gtggactcca    180
acgtcaaagg gcgaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccct    240
aatcaagttt tttggggtcg aggtgccgta aagcactaaa tcggaaccct aaagggagcc    300
cccgatttag agcttgacgg ggaaagccgg cgaacgtggc gagaaaggaa gggaagaaag    360
cgaaaggagc gggcgctagg cgctggcaa gtgtagcggt cacgctgcgc gtaaccacca    420
cacccgccgc gcttaatgcg ccgctacagg gcgcgtccat tcgccattca ggctgcgcaa    480
ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta cgccagctgg cgaaaggggg    540
atgtgctgca aggcgattaa gttgggtaac gccagggttt tcccagtcac gacgttgtaa    600
```

aacgacggcc agtgaattgt aatacgactc actatagggc   640

<210> 6044
<211> 654
<212> DNA
<213> Homo sapiens

<400> 6044
aataccgcat caggaaattg taagcgttaa tattttgtta aaattcgcgt taaattttttg   60
ttaaatcagc tcattttttta accaataggc cgaaatcggc aaaatccctt ataaatcaaa   120
agaatagacc gagatagggt tgagtgttgt tccagtttgg aacaagagtc cactattaaa   180
gaacgtggac tccaacgtca aagggcgaaa aaccgtctat caggcgatg gcccactacg   240
tgaaccatca ccctaatcaa gttttttggg gtcgaggtgc cgtaaagcac taaatcggaa   300
ccctaaaggg agcccccgat ttagagcttg acggggaaag ccggcgaacg tggcgagaaa   360
ggaagggaag aaagcgaaag gagcgggcgc tagggcgctg gcaagtgtag cggtcacgct   420
gcgcgtaacc accacacccg ccgcgcttaa tgcgccgcta cagggcgcgt ccattcgcca   480
ttcaggctgc gcaactgttg ggaagggcga tcggtgcggg cctcttcgct attacgccag   540
ctggcgaaag ggggatgtgc tgcaaggcga ttaagttggg taacgccagg gttttcccag   600
tcacgacgtt gtaaaacgac ggccagtgaa ttgtaatacg actcactata gggc   654

<210> 6045
<211> 647
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (29)
<223> n equals a,t,g, or c

<400> 6045
cgcatcagga aatgtaagcg ttaatattnt gtaaaattcg cgttaaattt ttgttaaatc   60
agctcatttt ttaaccaata ggccgaaatc ggcaaaatcc cttataaatc aaaagaatag   120
accgagatag ggttgagtgt tgttccagtt tggaacaaga gtccactatt aaagaacgtg   180
gactccaacg tcaaagggcg aaaaaccgtc tatcagggcg atggcccact acgtgaacca   240
tcaccctaat caagtttttt ggggtcgagg tgccgtaaag cactaaatcg gaaccctaaa   300
gggagccccc gatttagagc ttgacgggga aagccggcga acgtggcgag aaaggaaggg   360
aagaaagcga aaggagcggg cgctagggcg ctggcaagtg tagcggtcac gctgcgcgta   420
accaccacac ccgccgcgct taatgcgccg ctacagggcg cgtccattcg ccattcaggc   480
tgcgcaactg ttgggaaggg cgatcggtgc gggcctcttc gctattacgc cagctggcga   540
agggggatg tgctgcaagg cgattaagtt gggtaacgcc agggttttcc cagtcacgac   600
gttgtaaaac gacggccagt gaattgtaat acgactcact atagggc   647

<210> 6046
<211> 640
<212> DNA
<213> Homo sapiens

<400> 6046
aaattgtaag cgttaatatt ttgttaaaat tcgcgttaaa tttttgttaa atcagctcat   60
ttttttaacca ataggccgaa atcggcaaaa tccsttataa atcaaaagaa tagaccgaga   120
tagggttgag tgttgttcca gtttggaaca agagtccact attaaagaac gtggactcca   180
acgtcaaagg gcgaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccct   240
aatcaagttt tttggggtcg aggtgccgta aagcactaaa tcggaaccct aaagggagcc   300
cccgatttag agcttgacgg ggaaagccgg cgaacgtggc gagaaagsaa gggaagaaag   360
cgaaaggagc gggcgctagg gcgctggcaa gtgtagcggt cacgctgcgc gtaaccacca   420
cacccgccgc gcttaatgcg ccgytacagg gcgcgtccat tcgccattca ggctgcgcaa   480
ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta cgccagctgg cgaaaggggg   540

2960

```
atgtgctgca aggcgattaa gttgggtaac gccagggttt tcccagtcac gacgttgtaa    600
aacgacggcc agtgaattgt aatacgactc actatagggc                          640


<210> 6047
<211> 640
<212> DNA
<213> Homo sapiens

<400> 6047
aaattgtaag cgttaatatt ttgttaagat tcgcgttaaa tttttgttaa atcagctcat     60
tttttaacca ataggccgaa atcggcaaaa tcccttataa atcaaaagaa tagaccgaga    120
tagggttgag tgttgttcca gtttggaaca agagtccact attaaagaac gtggactcca    180
acgtcaaagg gcgaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccct    240
aatcaagttt tttggggtcg aggtgccgta aagcactaaa tcggaaccct aaagggagcc    300
cccgatttag agcttgacgg ggaaagccgg cgaacgtggc gagaaaggaa gggaagaaag    360
cgaaaggagc gggcgctagg gcgctggcaa gtgtagcggt cacgctgcgc gtaaccacca    420
cacccgccgc gcttaatgcg ccgctacagg gcgcgtccat tcgccattca ggctgcgcaa    480
ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta cgccagctgg cgaaagggg     540
atgtgctgca aggcgattaa gttgggtaac gccagggttt tcccagtcac gacgttgtaa    600
aacgacggcc agtgaattgt aatacgactc actatagggc                          640


<210> 6048
<211> 571
<212> DNA
<213> Homo sapiens

<400> 6048
aataggccga aatcggcaaa atcccttata aatcaaaaga atagaccgag atagggttga     60
gtgttgttcc agtttggaac aagagtccac tattaaagaa cgtggactcc aacgtcaaag    120
ggcgaaaaac cgtctatcag ggcgatggcc cactacgtga accatcaccc taatcaagtt    180
ttttggggtc gaggtgccgt aaagcactaa atcggaaccc taaagggagc ccccgattta    240
gagcttgacg gggaaagccg cgaacgtgg cgagaaagga agggaagaaa gcgaaaggag    300
cgggcgctag ggcgctggca agtgtagcgg tcacgctgcg cgtaaccacc acacccgccg    360
cgcttaatgc gccgctacag ggcgcgtcca ttcgccattc aggctgcgca actgttggga    420
agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg gatgtgctgc    480
aaggcgatta agttgggtaa cgccagggtt ttcccagtca cgacgttgta aaacgacggc    540
cagtgaattg taatacgact cactataggg c                                   571


<210> 6049
<211> 640
<212> DNA
<213> Homo sapiens

<400> 6049
aaattgtaag cgttaatatt ttgttaaaat tcgcgttaaa tttttgttaa atcagctcat     60
tttttaacca ataggccgaa atcggcaaaa tcccttataa atcaaaagaa tagaccgaga    120
tagggttgag tgttgttcca gtttggaaca agagtccact attaaagaac gtggactcca    180
acgtcaaagg gcgaaaaacc gtctatcagg gcgatggccc actacgtgaa ccatcaccct    240
aatcaagttt tttggggtcg aggtgccgta aagcactaaa tcggaaccct aaagggagcc    300
cccgatttag agcttgacgg ggaaagccgg cgaacgtggc gagaaaggaa gggaagaaag    360
cgaaaggagc gggcgctagg gcgctggcaa gtgtagcggt cacgctgcgc gtaaccacca    420
cacccgccgc gcttaatgcg ccgctacagg gcgcgtccat tcgccattca ggctgcgcaa    480
ctgttgggaa gggcgatcgg tgcgggcctc ttcgctatta cgccagctgg cgaaagggg     540
atgtgctgca aggcgattaa gttgggtaac gccagggttt tcccagtcac gacgttgtaa    600
aacgacggcc agtgaattgt aatacgactc actatagggc                          640


<210> 6050
```

<211> 639
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (88)
<223> n equals a,t,g, or c

<400> 6050
```
aattgtaagc gttaatattt tgttaaaatt cgcgttaaat ttttgttaaa tcagctcatt      60
ttttaaccaa taggccgaaa tcggcaanat cccttataaa tcaaaagaat agaccgagat     120
agggttgagt gttgttccag tttggaacaa gagtccacta ttaaagaacg tggactccaa     180
cgtcaaaggg cgaaaaaccg tctatcaggg cgatggccca ctacgtgaac catcacccta     240
atcaagtttt ttggggtcga ggtgccgtaa agcactaaat cggaaccceta aagggagccc     300
ccgatttaga gcttgacggg gaaagccggc gaacgtggcg agaaaggaag ggaagaaagc     360
gaaaggagcg ggcgctaggg cgctggcaag tgtagcggtc acgctgcgcg taaccaccac     420
acccgccgcg cttaatgcgc cgctacaggg cgcgtccatt cgccattcag gctgcgcaac     480
tgttgggaag ggcgatcggt gcgggcctct tcgctattac gccagctggc gaaaggggga     540
tgtgctgcaa ggcgattaag ttgggtaacg ccagggtttt cccagtcacg acgttgtaaa     600
acgacggcca gtgaattgta atacgactca ctatagggc                           639
```


<210> 6051
<211> 648
<212> DNA
<213> Homo sapiens

<400> 6051
```
gcatcaggma attgtaagcg ttaatatttt gttaaaattc gcgttaaatt tttgttaaat      60
cagctcattt tttaaccaat aggccgaaat cggcaaaatc ccttataaat caaaagaata     120
gaccgagata gggttgagtg ttgttccagt ttggaacaag agtccactat taaagaacgt     180
ggactccaac gtcaaagggc gaaaaaccgt ctatcagggc gatggcccac tacgtgaacc     240
atcaccctaa tcaagttttt tggggtcgag gtgccgtaaa gcactaaatc ggaaccctaa     300
agggagcccc cgatttagag cttgacgggg aaagccggcg aacgtggcga gaaaggaagg     360
gaagaaagcg aaaggagcgg gcgctagggc gctggcaagt gtagcggtca cgctgcgcgt     420
aaccaccaca cccgccgcgc ttaatgcgcc gctacagggc gcgtccattc gccattcagg     480
ctgcgcaact gttgggaagg gcgatcggtg cgggcctctt cgctattacg ccagctggcg     540
aaaggggat gtgctgcaag gcgattaagt gggtaacgc cagggttttc ccagtcacga     600
cgttgtaaaa cgacggccag tgaattgtaa tacgactcac tatagggc                 648
```


<210> 6052
<211> 624
<212> DNA
<213> Homo sapiens

<400> 6052
```
tattttgtta aaattcgcgt taaattttg ttaaaccagc tcattttta accaataggc      60
ggaaatcggc aaaatccctt ataaatcaaa agaatagacc gagatagggt tkagtgttgt     120
tccagtttgg aacaagagtc cactattaaa gaacgtggac tccaacgtca aagggcgaaa     180
aaccgtctat cagggcgatg gcccactacg tgaaccatca ccctaatcaa gttttttggg     240
gtcgaggtgc cgtaaagcac taaatcggaa ccctaaaggg agccccgat ttagagcttg     300
acggggaaag ccggcgaacg tggcgagaaa ggaagggaag aaagcgaaag gagcgggcgc     360
tagggcgctg gcaagtgtag cggtcacgct gcgcgtaacc accaccccg ccgcgcttaa     420
tgcgccgcta cagggcgcgt ccattcgcca ttcaggctgc gcaactgttg ggaagggcga     480
tcggtgcggg cctcttcgct attacgccag ctggcgaaag ggggatgtgc tgcaaggcga     540
ttaagttggg taacgccagg gttttcccag tcacgacgtt gtaaacgac ggccagtgaa     600
ttgtaatacg actcactata gggc                                           624
```

<210> 6053
<211> 509
<212> DNA
<213> Homo sapiens

<400> 6053
gttgttccag tttggaacaa gagtccacta ttaaagaacg tggactccaa cgtcaaaggg   60
cgaaaaaccg tctatcaggg cgatggccca ctacgtgaac catcacccta atcaagtttt   120
ttggggtcga ggtgccgtaa agcactaaat cggaaccccta aagggagccc ccgatttaga   180
gcttgacggg gaaagccggc gaacgtggcg agaaaggaag ggaagaaagc gaaaggagcg   240
ggcgctaggg cgctggcaag tgtagcggtc acgctgcgcg taaccaccac acccgccgcg   300
cttaatgcgc cgctacaggg cgcgtccatt cgccattcag gctgcgcaac tgttgggaag   360
ggcgatcggt gcgggcctct tcgctattac gccagctggc gaaagggga tgtgctgcaa   420
ggcgattaag ttgggtaacg ccagggtttt cccagtcacg acgttgtaaa acgacggcca   480
gtgaattgta atacgactca ctatagggc   509

<210> 6054
<211> 654
<212> DNA
<213> Homo sapiens

<400> 6054
aaatacgcat caggaaattg taagcgttaa tattttgtta aaattcgcgt taaattttg   60
ttaaatcagc tcatttttta accaataggc cgaaatcggc aaaatccctt ataaatcaaa   120
agaatagacc gagatagggt tgagtgttgt tccagtttgg aacaagagtc cactattaaa   180
gaacgtggac tccaacgtca aagggcgaaa aaccgtctat cagggcgatg gcccactacg   240
tgaaccatca ccctaatcaa gttttttggg gtcgaggtgc cgtaaagcac taaatcggaa   300
ccctaaaggg agcccccgat ttagagcttg acggggaaag·ccggcgaacg tggcgagaaa   360
ggaagggaag aaagcgaaag gagcgggcgc tagggcgctg gcaagtgtag cggtcacgct   420
gcgcgtaacc accacacccg ccgcgcttaa tgcgccgcta cagggcgcgt ccattcgcca   480
ttcaggctgc gcaactgttg ggaagggcga tcggtgcggg cctcttcgct attacgccag   540
ctggcgaaag ggggatgtgc tgcaaggcga ttaagttggg taacgccagg gttttcccag   600
tcacgacgtt gtaaaacgac ggccagtgaa ttgtaatacg actcactata gggc   654

<210> 6055
<211> 546
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (20)
<223> n equals a,t,g, or c

<400> 6055
ttataaatca aaagaatagn ccgagatagg gttgagtgtt gttccagttt ggaacaagag   60
tccactatta aagaacgtgg actccaacgt caaagggcga aaaaccgtct atcagggcga   120
tggcccacta cgtgaaccat caccctaatc aagttttttg gggtcgaggt gccgtaaagc   180
actaaatcgg aaccctaaag ggagcccccg atttagagct tgacggggaa agccggcgaa   240
cgtggcgaga aaggaaggga agaaagcgaa aggagcgggc gctagggcgc tggcaagtgt   300
agcggtcacg ctgcgcgtaa ccaccacacc cgccgcgctt aatgcgccgc tacagggcgc   360
gtccattcgc cattcaggct gcgcaactgt tgggaagggc gatcggtgcg ggcctcttcg   420
ctattacgcc agctggcgaa aggggatgt gctgcaaggc gattaagttg ggtaacgcca   480
gggttttccc agtcacgacg ttgtaaaacg acggccagtg aattgtaata cgactcacta   540
tagggc   546

<210> 6056
<211> 654

<212> DNA
<213> Homo sapiens

<400> 6056
```
aataccgcat caggaaattg taagcgttaa tattttgtta aaattcgcgt taaattttttg      60
ttaaatcagc tcattttta accaataggc cgaaatcggc aaaatcccttt ataaatcaaa     120
agaatagacc gagatagggt tgagtgttgt tccagtttgg aacaagagtc cactattaaa     180
gaacgtggac tccaacgtca aagggcgaaa aaccgtctat caggcgatg gcccactacg     240
tgaaccatca ccctaatcaa gttttttggg gtcgaggtgc cgtaaagcac taaatcggaa     300
ccctaaaggg agcccccgat ttagagcttg acggggaaag ccggcgaacg tggcgagaaa     360
ggaagggaag aaagcgaaag gagcgggcgc tagggcgctg gcaagtgtag cggtcacgct     420
gcgcgtaacc accacacccg ccgcgcttaa tgcgccgcta caggcgcgt ccattcgcca     480
ttcaggctgc gcaactgttg ggaagggcga tcggtgcggg cctcttcgct attacgccag     540
ctggcgaaag ggggatgtgc tgcaaggcga ttaagttggg taacgccagg gttttcccag     600
tcacgacgtt gtaaaacgac ggccagtgaa ttgtaatacg actcactata gggc          654
```

<210> 6057
<211> 1232
<212> DNA
<213> Homo sapiens

<400> 6057
```
gcaaagcctc ttctaagaat agctgtgaag ggagctggaa gctatgagat cagaatgaat      60
aataatttt gcatttcaca caaaagccag gtaggaagta aagcataatg ggggcctctt     120
ggatgccagg tgtttaacac ctgatggcat ctaatcctca caaaaacctt cactggtgcc     180
accatgccca gatgagacat gagagggtct gagaggctga ggaacctgcc cgttgtctca     240
ccacaaatgc tgacccagcc aactgctcac cctggccccc cgcccccagc ccccaaaccc     300
agtcctttct acaacctgct ctctctccaa atagcagtag tcagaggctg tgctgaggcc     360
tcccagaaac ctttccccta tgtggatgta accttctcga gacctgcttt tggagttcaa     420
cctgtgctga aggggcagag aaaaatccta tggcaggagg ggcacttgag ataagcctca     480
taggaggaga gaagcttctc cctgtgtgga aggaggcagc acacaggcca cagagaggcg     540
cagaagggac aactgaggcc aagagaggcg gaaggtcccc agacgggttt tctaaaatat     600
ctttctctga atagcatttt tacttaaatt tgatatgcaa atgcagataa ttggtattca     660
tgtaaatatt tactgcttaa aacagaaagt tacttgtaat aggccaggca cagtggctca     720
cgcctgtaat cccagcactt tgggaggctg aggcaggcag atcacgaggt caaaagatcg     780
agaccatcct ggccaacatg gtgaaacctt gtctctacta aaaatacaac aattagctgc     840
ctcaggaggc tgaggcagga gaatcacttg aaccagggag gcagaggttg cagtgagccg     900
agatcgcacc actgcactcc agcctggtga cagagcaaga ctccatctcg aaaaaagaga     960
aagttactta taatagaaag cctgttcaaa tgtggcaagt gcaacgtatt cttttggagg    1020
ctctaaaccc aagcctgcag gtccctgata cgtcttcttt gccatctagt ggtagccatt    1080
agaactgcat gtgtgggccc ggcgccgtgg ctcacgcctg taattcccgc attttgaggg    1140
gccgaggtgg gtggatccct tgagcccagg agtttgagac agcctggaca acatggcaaa    1200
gccctgtcaa aaaatacaaa aaattaaaaa aa                                  1232
```

<210> 6058
<211> 1232
<212> DNA
<213> Homo sapiens

<400> 6058
```
gcaaagcctc ttctaagaat agctgtgaag ggagctggaa gctatgagat cagaatgaat      60
aataatttt gcatttcaca caaaagccag gtaggaagta aagcataatg ggggcctctt     120
ggatgccagg tgtttaacac ctgatggcat ctaatcctca caaaaacctt cactggtgcc     180
accatgccca gatgagacat gagagggtct gagaggctga ggaacctgcc cgttgtctca     240
ccacaaatgc tgacccagcc aactgctcac cctggccccc cgcccccagc ccccaaaccc     300
agtcctttct acaacctgct ctctctccaa atagcagtag tcagaggctg tgctgaggcc     360
tcccagaaac ctttccccta tgtggatgta accttctcga gacctgcttt tggagttcaa     420
cctgtgctga aggggcagag aaaaatccta tggcaggagg ggcacttgag ataagcctca     480
taggaggaga gaagcttctc cctgtgtgga aggaggcagc acacaggcca cagagaggcg     540
```

```
cagaagggac aactgaggcc aagagaggcg gaaggtcccc agacgggttt tctaaaatat    600
ctttctctga atagcatttt tacttaaatt tgatatgcaa atgcagataa ttggtattca    660
tgtaaatatt tactgcttaa aacagaaagt tacttgtaat aggccaggca cagtggctca    720
cgcctgtaat cccagcactt tgggaggctg aggcaggcag atcacgaggt caaaagatcg    780
agaccatcct ggccaacatg gtgaaacctt gtctctacta aaaatacaac aattagctgc    840
ctcaggaggc tgaggcagga gaatcacttg aaccagggag gcagaggttg cagtgagccg    900
agatcgcacc actgcactcc agcctggtga cagagcaaga ctccatctcg aaaaaagaga    960
aagttactta taatagaaag cctgttcaaa tgtggcaagt gcaacgtatt cttttggagg   1020
ctctaaaccc aagcctgcag gtccctgata cgtcttcttt gccatctagt ggtagccatt   1080
agaactgcat gtgtgggccc ggcgccgtgg ctcacgcctg taattcccgc attttgaggg   1140
gccgaggtgg gtggatccct tgagcccagg agtttgagac agcctggaca acatggcaaa   1200
gccctgtcaa aaaatacaaa aaattaaaaa aa                                  1232
```

<210> 6059
<211> 2249
<212> DNA
<213> Homo sapiens

<400> 6059
```
ccaggtggaa agcaagtacc tggccggtct gagaaggctg caggaggccc tgggggacga     60
agccagcgag tgctcagagc tgctgaggca gcttgtccag gaggcactgc agtgggaagc    120
tggggaggcc tcatctgaca gcatcgagct gagccccatc aggtgagcct ggcggcccag    180
gaagggctgg tctatgtgag ctggcggctc ctccccagct gccttgctgc caggtcctgc    240
caaccatgta caagtcctac acagcactac ctcctctgat cttcacatgc attagtgtgc    300
ggctgcagct gagatggttc acgctcagag gaggcagccc cctgccatgg ccctatagta    360
catttgcggc acaggctgcc tccagagccc catgctttcc atttatctag gctgcctccc    420
aaatgtggct gcctcccaga tgtgcctgtc agagagggga cgaggggaga caagcaggcc    480
atctcctctg caccaaggcc ttgctgagca cagtggacat gggcagttaa atataacaga    540
aaggagggtg gctatgctcg aaggcccctg gaggctgagt agtccagtgg caggagctcg    600
agctttggag ccagccctgg ccctctcacc gtgtgacaat tccctttacc tttctgagcc    660
tcgtactcag cctccataag atatgtgcaa agagctgggc acagtggctc atgcctgtaa    720
ttccagcact ttgggaggct gagatgggca gattgcttga ggccaggagt ttgagcccag    780
cctgggcaat atattggaat cctgtctcta caaaaaaaaa aaaaaaagaa gagtggtggt    840
gcacgcctgt agtcccagct actcggaagg ctgaggtggg aggatcactt gagcccagaa    900
ggtagaagct gcaatgagct gagattgcag cactgcagtc cagcctgggc aacagagtga    960
ggccctgaaa agaaaagaaa agaaaggaag gggggaaggg agggaaagaa agaaagaaaa   1020
agaaaggaag gaaggaagga aggaaggaag gaaggaaagg aaggaaggaa aggaaagaag   1080
gaaggaagga aggaaaaaaa aaagatttag gcaaacacac ctgctttgca ggatcattag   1140
gattaaatga gatagtgcag gcagggcaca gagtggaggt gagtcaacat tgaataaatc   1200
aaaggccttc tggaacgggt ccccagctgt cccacctgtc tgtcattggt gctgtctgtt   1260
ccccgtccac ccctgcgctt actggctgtg gtaagtgggg ttctgtatgc acagtgcagg   1320
actccttggg cctaaggctg catggagtaa taagagggtc cttttatattt gcatagaatt  1380
agtaaatatc tcttgggcat ttactgtgta ccaggcacta tctaggcccc cagcatctta   1440
caacagagga tctcgttggg tctttaggag gcagagcagg gattcccata tgcattatac   1500
agattcgcaa tctgaggttg ggagaactga agtgacctgc ccagagctgt gtggttaacc   1560
ctcagtgaag gcagggcagg aacctggcct ggggtcctcc ctgtcaccac cacccttat   1620
ctaggaagg gctctgcaag gtgttgctaa cgtgcacttt tgctggcagt aagtatgatg    1680
agtacggctt cctgacggtg cccgactatg aggtggaaga cctgaagctg ctggccaaga   1740
tccaggcatt ggagtcacga tcccaccacc tgctgggcct cgaggctgtg gatcggccgc   1800
tgagggagcg ctgggctgcc ctggcgatc ttgtgccctc agccgagctc aagcagctac    1860
tgcgggcagg agtaccccgt gaacaccggc ctcgtgtctg gaggtggctg gtccacctcc   1920
gtgtccagca cctgcacact ccaggctgct accaggaact gctgagccgg ggccaggccc   1980
gcgagcaccc tgctgcccgc cagattgagc tggacctgaa ccggaccttc cccaacaaca   2040
aacacttcac ctgccccacc tccagcttcc ccgacaagct ccgccgggtg ctgctggcct   2100
tctcctggca gaaccccacc atcggctact gccagggcct gaacaggtaa gccaccaaag   2160
cccagtgaag gtgtgatctt taccttttgg agcgcaggtc cccaaccctc agactgtgga   2220
caggcagcca tctgtggcct gttaagggg                                      2249
```

<210> 6060

<211> 2249
<212> DNA
<213> Homo sapiens

<400> 6060
```
ccaggtggaa agcaagtacc tggccggtct gagaaggctg caggaggccc tgggggacga      60
agccagcgag tgctcagagc tgctgaggca gcttgtccag gaggcactgc agtgggaagc     120
tggggaggcc tcatctgaca gcatcgagct gagccccatc aggtgagcct ggcggcccag     180
gaagggctgg tctatgtgag ctggcggctc ctccccagct gccttgctgc caggtcctgc     240
caaccatgta caagtcctac acagcactac ctcctctgat cttcacatgc attagtgtgc     300
ggctgcagct gagatggttc acgctcagag gaggcagccc cctgccatgg ccctatagta     360
catttgcggc acaggctgcc tccagagccc catgctttcc atttatctag gctgcctccc     420
aaatgtggct gcctcccaga tgtgcctgtc agagagggga cgagggagga caagcaggcc     480
atctcctctg caccaaggcc ttgctgagca cagtggacat gggcagttaa atataacaga     540
aaggagggtg gctatgctcg aaggccctg gaggctgagt agtccagtgg caggagctcg     600
agctttggag ccagccctgg ccctctcacc gtgtgacaat tccctttacc tttctgagcc     660
tcgtactcag cctccataag atatgtgcaa agagctgggc acagtggctc atgcctgtaa     720
ttccagcact ttgggaggct gagatgggca gattgcttga ggccaggagt ttgagcccag     780
cctgggcaat atattggaat cctgtctcta caaaaaaaaa aaaaaagaa gagtggtggt     840
gcacgcctgt agtcccagct actcggaagg ctgaggtggg aggatcactt gagcccagaa     900
ggtagaagct gcaatgagct gagattgcag cactgcagtc cagcctgggc aacagagtga     960
ggccctgaaa agaaaagaaa agaaaggaag ggggaaggg agggaaagaa agaaagaaaa    1020
agaaaggaag gaaggaagga aggaaggaag gaaggaaagg aaggaaggaa aggaaagaag    1080
gaaggaagga aggaaaaaaa aaagatttag gcaaacacac ctgctttgca ggatcattag    1140
gattaaatga gatagtgcag gcagggcaca gagtggaggt gagtcaacat tgaataaatc    1200
aaaggccttc tggaacgggt ccccagctgt cccacctgtc tgtcattggt gctgtctgtt    1260
ccccgtccac ccctgcgctt actggctgtg gtaagtgggg ttctgtatgc acagtgcagg    1320
actccttggg cctaaggctg catggagtaa taagagggtc ctttatattt gcatagaatt    1380
agtaaatatc tcttgggcat ttactgtgta ccaggcacta tctaggcccc cagcatctta    1440
caacagagga tctcgttggg tctttaggag gcagagcagg gattcccata tgcattatac    1500
agattcgcaa tctgaggttg ggagaactga agtgacctgc ccagagctgt gtggttaacc    1560
ctcagtgaag gcagggcagg aacctggcct ggggtcctcc ctgtcaccac cacccccttat    1620
ctagggaagg gctctgcaag gtgttgctaa cgtgcacttt tgctggcagt aagtatgatg    1680
agtacggctt cctgacggtg cccgactatg aggtggaaga cctgaagctg ctggccaaga    1740
tccaggcatt ggagtcacga tcccaccacc tgctgggcct cgaggctgtg gatcggccgc    1800
tgagggagcg ctgggctgcc ctgggcgatc ttgtgccctc agccgagctc aagcagctac    1860
tgcgggcagg agtaccccgt gaacaccggc ctcgtgtctg gaggtggctg gtccacctcc    1920
gtgtccagca cctgcacact ccaggctgct accaggaact gctgagccgg ggccaggccc    1980
gcgagcaccc tgctgcccgc cagattgagc tggacctgaa ccggaccttc cccaacaaca    2040
aacacttcac ctgccccacc tccagcttcc ccgacaagct ccgccgggtg ctgctggcct    2100
tctcctggca gaacccccacc atcggctact gccagggcct gaacaggtaa gccaccaaag    2160
cccagtgaag gtgtgatctt tacctttgg agcgcaggtc cccaaccctc agactgtgga    2220
caggcagcca tctgtggcct gttaagggg                                      2249
```

<210> 6061
<211> 7071
<212> DNA
<213> Homo sapiens

<400> 6061
```
gtggggctgg tgtccgagca cttctcgcag gccccgcaga ggctgtcctt ctacagctgg      60
tacggcagtg ccaggctctt ccgcttccgc gtgcccccag atgctgtgct tctacgctgg     120
ctcctgcagg tctcccggga gagcggcgct gcctgcaccg acgcggagat caccgtgtag     180
gtggctgccc gcccgcctgc ccaccctccc gcgcctggcc aagccctgtg cctgaacccg     240
gtgctgctct cccgtctcca ggcacttccg ttccggcgcc cctccggtca tcaacccgct     300
gggcaccagc ttcccggacg acaccgcggt acagccctcc ttccaggtcg gggtgccgct     360
gagcaccaca ccgagaagca atgcctccgt caacgtttcc cacccggccc ccggggactg     420
gttcgtggcc gcccacctgg cccccctcatc ccagaagatc gagttgaagg tgagggggc     480
tgccctccgg gatggaggca gagaaccttg cggcgatggc ctgtccctgc cgttcacctc     540
tttggggtgg tcctcgctct aggctccacg ctgcactctg gggccagccc tgctcccctgc     600
```

2966

```
atgccggggg cgtctggtga gaccatgccc tcacacctgc attctctgac accgcccccg    660
cccacacctg ttctttccct agggcttggc tcccacctgt gcctacgtct tccagcctga    720
actgctggtc acgcgggtgg tcgagatttc catcatggag ccggacgtgc cccttcctca    780
gaccctcctc tcccatccca gctacctcaa gtgagcgggg gcctgggggg cagcccggct    840
ctgccctccg gcccccttctc agattcggtg gagtgggtgc gagagcctgg ccctgagtcc    900
tggggttggg ctgggaagtg gtccagatgc ctggccccca ccagagtggg ctgaggaaca    960
gcagagcctg ggcacgctgc gtccctgggc tgaggaatgg cagagcctga gccagctgtg   1020
tcccctcgct gcagggtctt tgtccccgat tacacgcggg agcttctgct ggagctgcgg   1080
gactgcgtgt ccaatgggag cctgggctgc cccgtgcgtc tcaccgtggg cccggtcacc   1140
ctgcctagca acttccagaa ggtgctcacc tgcaccggtg ccccctggcc ctgccgcctg   1200
ctgctgccct caccgccctg ggaccggtgg ctgcaagtga cagctgagag cctggtgggg   1260
cccctcggga cagtggcttt cagtgctgta gctgccctca caggtgggcc gcacaagggc   1320
tggagggatg gccctgcccc tccccagatc cccagacttt cctccagcca aaccccttgt   1380
cctctcggca gcttgcaggc cacggagcgt gaccatccag cccccttctgc agagcagcca   1440
aaaccagagc ttcaatgcct cctctggtct gctgtccccg agccccgacc accaggacct   1500
gggcaggagt ggcagggtgg accgcagccc cttctgcctc acaaactacc cagtcacgcg   1560
ggaggacatg gacgtggtgt cggtgcactt ccagcccctg gacagggtct cggtgagggt   1620
gtgttcggac acgccctccg tgatgcggct gcgcctgaac accggcatgg acagcggggg   1680
ttccctcacc atctccctgc gggccaacaa ggtacctgct gtctgcaagc ggcctgtggc   1740
ctgggctcgg gcagggcgcc gggcaacccc tgcagcgcct cctcatttac cttggcacgg   1800
gacaggcggc acagtgacac cagcaggcac gggccaagac aggggcccat gttggggggc   1860
ctcccctgct gggcagcctt gttcctgtca acaggccccg gggctgtggg gtagctcggg   1920
tcagaggtgg ggtggaggca ggatgtccca gggcccgggg aggaaggtcc cggtgcaccg   1980
tgggcctgca ggagtctcag agaaaggcac cagcaccggc cgggcgcggt ggctcacgcc   2040
tgtaatccca gcactttggg aggccgagga gggtggatca cgaggtcagg agattgggac   2100
catcctggct aacacggtga accccgtct ctactgaaaa tacaaaaatt agccgggcgt    2160
ggtggcgggc gcctgtagtc ccagctactc gggaggctga ggcgggagaa tggcatgaac   2220
ccaggggcgg aggttgcagt gagccgagat cgcggcactg ccctccagcc tgggcgacag   2280
agcaagactc catctcagaa aaaaaaaaaa aaagaaaggc accagcacca ggctgagctg   2340
gcacgtgggg cagatgaccc cactgcggcc aggggctgct ggagctgagc cggcaccgcc   2400
tcccttttcca gacagagatg cggaacgaga ccgtcgtagt ggcctgcgtg aatgctgcct   2460
cgcccttcct tggcttcaat acttcgctca actgcaccac aggtatgatg ggcaggcgtc   2520
accgtcagcg tggcccccggc cagccccccg ccccggcctc tctgatgggg ccctctggc    2580
tcccctgcag ccttcttcca gggctaccct ttgtctctga gcgcctggtc tcgcagggcc   2640
aacctcatca tcccctaccc agagacagac aactggtacc tctccctgca gctcatgtgc   2700
cctgagaatg ctgagtaagt aaacctaggg cagagacggg ggccaggcac cctgtcattt   2760
cactcaggac cacaggccgg gctgcctgag gttggcgttc ggagtgaccc agctagaggg   2820
gtgcttcctc cagggctgct gaaagctggg ggccctaatg ctgcgttctc atgtctgtca   2880
gcctgttggg agcgctggtg gcagctgggc tgtcagatca ctgcaccagc tttcctgtgg   2940
ccccttcctc aaagggactg tgagcaggct gtggtccacg tggagaccac cttgtacctg   3000
gtgccctgtt tgaacgattg tggaccctat ggccagtgcc tcctgctccg cagacacagc   3060
tacctgtatg ccagctgcag ctgcaaggca ggtgagtgcc agggccccgc ccgccccgag   3120
acgctgctgc tgttggcttc cagtgctgtg ctgtgccttt cccctggggg agcgccgcaa   3180
ggggctggag agagaccctt gcagagcaat gcaggggcaa agcctcctcc ccactcccce   3240
attccccacc aacaatccgt ctgcctggca caggcaccag gtatccccgg ggggtggtac   3300
tgcctcctga ccttggaccc cgcccgccgt gcctaccctg cttgctcctg ggtgaggaag   3360
gggcttctct gcagggtcct gggtgagggg tgggccctga ggttcagcag tgcccccagc   3420
ctccgcgtcg gggttttgtg accgcaggct ggcgtgggtg gagctgcacg gacaacagca   3480
cagcccagac ggtggcccag cagagggcgg ccacactgct gctcacgctc agcaacctca   3540
tgttcctggc ccccatcgcc gtctcagtgc ggcgattctt cctggtggag gcctccgtct   3600
acgcctacac catgttcttc tccacggtag gctggcccct cctgcaggga tgtggggtgg   3660
gagggcagga ccgcgctcat ggagcctccc cacagttcta ccacgcctgc gaccagcccg   3720
gggaggcggt gctgtgcatc ctcagctacg acacgctgca gtactgcgac ttcttgggct   3780
ccggggcggc catctgggtc accatcctgt gcatggcacg gctcaagaca gtcctgaaat   3840
acgtgagtgg ccctcgacgt ggggtgtggg ctccggggga gcagggcccc caagtgcagc   3900
ctgcgaaagg cagtaccgtg ggagaggccg gacctggcgt tgggcacggc ccctggaaac   3960
ctcacatctc ggccgagcat ggtggctcac acctgtaatc cctaggccga gcatggtggc   4020
tcacacctgt aatgccttgg ccgagcatgg tggcagcctggg ctgtaatccc aacacttgca   4080
ggaggatccc atgaggccag gggttcaaga gcagcctggg ctgtacaaaa aatcgaaaag   4140
ttagccgagc gtagtggtac atgcctgtgg tcccagccac tcgggagact aaggtgggag   4200
gatcgcttga tcccaggcat tggaggcgtt ggagtgagcc gaggtcacag cactgcactc   4260
```

2967

```
cagcctgggt gacaaaagaa aagaaaagaa acctcatgtc ttctgtgatg ccacacggag    4320
atgcgggtct gagaccccgc aggcagttgt gagggggcag tgccagctgt ttggaggatg    4380
ccaggaagga aggtggtagg caggggaggc caggcccct gccttcgaga agcccccacc      4440
catgctccct gggtccttgg ggccaatgat gctttgggga ctctctgtgg cagctggccc    4500
tggcaagggg agactcatgc cctgggcttg tgagctgcat gctctgccct cccatctgct    4560
ctgggaactg caggctgggt actgccccaa gggggtgccc atgggagccc cacagccagg    4620
gcagagggga ggctgggaag caccagggtc ctgcagggct gagtgcgggg cctgaacctg    4680
cagataggca gagaactgta ggctgtgggc agaggtgtct gatggagact gggggtgggg    4740
agccctccc catggaacag tgggtgggag actgaagcca ccctgatggg ggacttctag      4800
aaacccagtg gtacagggggg ctagtgagtg tgtgggtgca gagcggccat atgcgtctgt    4860
ccagtttgtg tgagcatcgt ctaatccccc agagatgcct gcctggccac attcacctgt    4920
ggatgcaata cagaagctga aggaggggca tgtccctgcc ggctggcaga gctagtcaga    4980
ggctggcaga gctggtctga gggtggcagc agctccgagg gggcaggcag aggtgctgtg    5040
gggccgtggg gtacgcgtgc tcctgctggg ccttgagccc tcagagacgt ccctgcagtc    5100
atccctgtgt cttgcgcagg tgctgtttct tctgggtaca ctggtcatcg ccatgtcctt    5160
gcagctggac cgcaggggca tgtggaacat gctggggccc tgcctctttg ccttcgtgat    5220
catggcctcc atgtgggtaa ggagccgggc tggctggcac tgctgcccag gtgctcggag    5280
aagagagcct ggccccttgc tctagccacg ttcctggtcc tgctccaacc agtgaatgcc    5340
catatctgct gggggttgcc atggcaccca cagaggccca gcatggctgt gtccctgagg    5400
cctgggcctg aggaccagtg gccttgagcc ccctcgaagc agcccaccct tgtcgttctg    5460
ctgcccagac ctgggcaggc ccccagtaac caccgtatct gggccctggg agctgcagcc    5520
gcggccccac ctgcactgat acctgcgtgg ctgttttctc caggcttacc gctgcgggca    5580
ccggcgccag tgctacccca cctcgtggca gcgctgggcc ttctacctcc tgcccggcgt    5640
ctctatggcc tctgtgggca tcgccatcta cacctccatg atgactagcg acaactacta    5700
ctacacccac agcatctggc acatcctgct ggccgggagc gcagccttgc tgctgccgcc    5760
acctgaccag cccgccgagc cctgggcctg ctcgcagaaa ttccctgcc actatcagat    5820
ctgcaagaac gatcgggagg aactgtacgc agtgacgtga cactggcctg gggacagctg    5880
ctgctctgat gacctcttca gccaggagct gtatcgaggg ggaggcgcct ggtccagccc    5940
tggacagatt gatttccagc tgaataaatt ggcctagata ccctcttact tcctcctact    6000
gaggagaggg ccacccctcc ctcacacgca cctctcctcg ccagctgcct gctcgctgct    6060
gagatccctc tgcagatccc agctgctgtc tgcagtggcc cctgggggcct gggcttggtt    6120
acttggagac cacaggtgcc tgtgcgaggg tggggctgtg tgctctgctg gcctgtgggt    6180
ggctagagat ggggagaagg actccctatg gtcctgttcc ctggcgaggc tgtggtgaga    6240
cccatggcgc ccaggagccc tgagcccacc actggggccg ggagctgtgg actccgagac    6300
ccctgctcct ggcccctgtg tggccctgat gccagcctgc ctggggcatg gaggatcccc    6360
ctctgctgct gtggtcacca tagggacggg agacggaggt ttcccccaga gctgatgggc    6420
actggggatg caggctcccg ccccgcccct cccttttttcc tggctctgga gccttgggtc    6480
cctgagaaga gcttccttgg actggggtgc tctgctgctc tgggggtttg gcccagaagg    6540
aaccctacc cagccctgtc cacccacccc agcgttcctg ggcccccctc tgggagcttc      6600
ctcttggtcc caggagctgc ggtggtgtct gccccctgca ctgggctctg tgcctgtgg     6660
gtgttcagga gactggactg tctctgctcc tcatgcaaac cttgtggggg aagcaatgac    6720
caggagcagc acctggcccc tccctgaggc ctgtgagtgt ctcggatccg ccctggagaa    6780
gtgagtggct gagaccgggg tggggccctc ctaccttgg ctctggggggc ttcccttctg     6840
ggtcttgtcc gggatatggc cttcctgaag gtcttacctc ccccagccgc cctgcacttg    6900
accaccaaag caatctctaa gcttataaag gagaaacata tatatatggg gttttttgga    6960
gtaaaggaaa attctaagat attaagacat atttttatgt agatctgatc tatctgtgtt    7020
tggtgaattt aatattctac attgattttt caaactaaac gagtttttac a             7071
```

<210> 6062
<211> 3158
<212> DNA
<213> Homo sapiens

<400> 6062
```
atcggcttcc ggttccggtg ggctctgaac cctgaaaggt gggcgcgggc aggtggggtg      60
tggggggggcg ccggggcaga aggggagggg caggtgggtg cgggacaggg gccggagtga    120
gaaccggggg ccggggtagg gggtagcggg tgagagccgg gggccggggt agcgggtgag     180
agccggggggc cggggtagcg ggtgagagcc ggggggccggg gtagcgggtg agagtcgggg    240
gccggggtag ggggtgagtg ccggggggcct ggccaggctg cgactgactg cgagcccca      300
cctcccgcca ggctcgcgat gcctctacac aagtatcccg tgtggctctg gaagcggctg     360
```

```
cagctgcggg agggcatctg ttcccgcctg cccggccact acctgcgctc cctggaggag    420
gagcggacgc ccactcccgt gcactatagg cctcatgggg ccaagttcaa gatcaacccc    480
aagaacgggc agcgggagcg tgtggaggac gtgcccattc ccatctactt tccccccgaa    540
tcccagcggg ggttgtgggg cggcgagggc tggatcctgg gccaaatata tgccaacaac    600
gacaaggtgg gtccgcaggc ggccttcagg ggctcctctc agggcttggc tgtgccggct    660
ctgtgccgga cgcccggggt acctggagag acctgggtgg ccctggggga ttacagcctg    720
gaggcgacac atctccggca aaggagcacg ctgagtgaag aaccgcagtt ctggcaaaca    780
ggactgataa agtaggggtg aggtggggtg actcaggccg ggggagcaac cagaggccgt    840
ggggagtcgg ggtaaagtta ggatggggag gaggcctgtg tgatgagcag agcaggtggg    900
agaggcgagc agagcaggtg ggggaggcga gcagagcttc gaggctgctt gtggtggact    960
tcctggcggg actgctgaag cctgtgggga gacttgtgtc acctccaggt tggaatgtga   1020
caacctgtaa actgtggggt cgcacatgtt tctgaaacac atgcagcaac catgtgacca   1080
gggcgggaac gcccagcttg ttggggagca gctgacttct gggtacacag tcaggacccg   1140
ggtcgggctg gggcggcact gggctggggg ccggcccagt tagctctagg tccccagtct   1200
gacagcagtg gttctgtgat ggagcctccg ggggggaggt gagggcagtt gcctgggccc   1260
cccttggtat gtaagagaaa gcagcagtac tcatggaggc tctgttgcac cctcagctct   1320
ccaagaggct gaagaaagtg tggaagccac agctgtttga gcgagagttc tacagtgaga   1380
tcctggacaa gaagttcaca gtgactgtga ccatgcggac cctggacctc atcgatgagg   1440
cttatgggct cgactttttac atcctcaagg caagcggggt ggggcgagtc agtgcacaca   1500
gggtctggga tgggccagtc agactcacgg gagccccagg tcagcatcac accggggcac   1560
gctgacatct gcacaggagg gtcactggga aagcgtgagt ggggccatgc ccctttctgg   1620
ccagcaccag tggggtttcc tgccttcagg agaggctgtc gctctgtggg tggctgactt   1680
gcccgtgggg cctgagcgag cacagccgcc cctttccctg cacttggact tgcttctgtg   1740
ctgatcccac cccccaggct ggggtgctga ggcggcccca cccgggcctt ctctgtcctg   1800
tcctgggacc accagcggct agagaggagc caggtgggtt ggctggaagg gtaggtgggg   1860
ccctgccacc agcacctggc cccatgtgag ccttctgcca gaccccgaag gaggacctgt   1920
gctccaagtt tgggatggac ctgaagcgag ggatgctgct gcggcttgcc cggcaggacc   1980
cccagctgca ccccgaggac cccgagcggc gggcagccat ctacgacaag tacaaggtga   2040
gggtttccgt cccgctccct cacctggggg actcgtggcc cggccctggg cctcactgcc   2100
ctttccatct ctgcctgcct aggaatttgc catcccagag gaggaggcag agtgggtggg   2160
cctcacgctg gaggaggcca ttgagaagca gagacttttg gaggagaagg tgagtgtgtg   2220
agcaccagcc gatgctgcct gcccagagcc tggtgttcag ggtctgggag tgtgctgcct   2280
tggagagagc ctgcacaagg ggctggtgca ctgggtgggc ttggggaaga gctgctgctc   2340
tgcattgccc acccagagga gcatggcccg ctccctcccc tccaagtccc caccctgttc   2400
tgtcccagga ccctcagtag gaggagtggg ttcctgcact gagggtttgc tcggccacca   2460
gcatcccagg gtctggagcc tgaggtagct gtcaggacag ggagcccctg atggcatggc   2520
agctggctgc ccctattccc tctgtttatc catgaccaca gggatgggac aggggtatgt   2580
gtgtgcctcc ggcatcccca agggagggg ttcctcatct caccgacagg actctgccct   2640
ccagggcctc tcatgccccg gttcctctgg gcggcagctg ctgatcccat ccccgtcgga   2700
actccagctg ccctgggctt ccctggcctc accatgagcc cctctctcct tcaggaccct   2760
gtacccctgt tcaagatcta tgtggcggag ctgatccagc agctgcagca gcaggcactg   2820
tcagagccgg cggtggtgca gaagagagcc agtggccagt gaccacacag ctcctccatg   2880
cctgaccaac aggcccagct ttccctgcca ggccctttgc actgaggaca cagatcccgg   2940
ggagctgtga gggccaccgg tgggcagtgg gtggatcctg gtttcgtgtg ctgcccatgc   3000
accttccagc ccggggccag cttggcaggg atccccagga ggcctgggcc gcccagaggc   3060
tcctctcagg ctgggccccg acgtttgcgg cagtgttcct tgtgcccgtg gggccgggag   3120
cgagtaaagt ctgggccagg ctgtgtgtgt gtatctttt                          3158
```

<210> 6063
<211> 1533
<212> DNA
<213> Homo sapiens

<400> 6063
```
tttaaactac tgcatcagga aatattgtaa aacagttttg ccttgaatat ttgtgatgaa     60
atctacgatg atcttcaaga ttctcttaat tttgctaata ttcagctgat cagaatttgt    120
ttttaaaatg tctggctggt gggtacttcc cactgacaac tgcttattgc ttacagtatg    180
tctgccttgt caatgaatga ggttcagggt gcttcctagg gatcagagtc agtaccattt    240
ttctctttca tctacagctg atcagatgtt tattttactt acattaaatg aatgatggag    300
atccaaagtg aatattatag aatattattc taggatcaac atcttttgct ttgaaaaatc    360
```

```
aacatctctt ggcttttcct cagccaaccc agcaaacaga gattatcaga ctctgttgat    420
tttttacttt catttggcat tggccttttt cttactgaaa ttaaaaaggc taatgatttg    480
cctggtttct gtctctgacc tttgcaggtc tattttctta atttttagat actatatatc    540
tgaaactttt tttaatgtgt caacttttta atggatagaa aatagacacg aatagtgatt    600
atgtgttcat ttttcaattt tccagaataa ctgaagtgaa gtgatggact ccgatttgga    660
gagtagtaag acgtgaaagg aatacacttg tgtttaagca ccatggcctt gatgattcac    720
tgttggggag aagaaacaag aaaagtaact ggttgtcacc tatgagaccc ttacgtgatt    780
gttagttaag ttttattca aagcagctgt aatttagtta ataaataat tatgatctat    840
gttgtttgcc caattgagat ccagtttttt gttgttattt ttaatcaatt aggggcaata    900
gtagaatgga caatttccaa gaatgatgcc tttcaggtcc tagggcctct ggcctctagg    960
taaccagttt aaattggttc agggtgataa ctacttagca ctgccctggt gattacccag   1020
agatatctat gaaaaccagt ggcttccatc aaacctttgc caactcaggt tcacagcagc   1080
tttgggcagt tatggcagta tggcattagc tgagaggtgt ctgccacttc tgggtcaatg   1140
gaataataaa ttaagtacag gcaggaattt ggttgggagc atcttgtatg atctccgtat   1200
gatgtgatat tgatggagat agtggtcctc attcttgggg gttgccattc ccacattccc   1260
ccttcaacaa acagtgtaac aggtccttcc cagatttagg gtacttttat tgatggatat   1320
gttttccttt tattcacata accccttgaa accctgtctt gtcctcctgt tacttgcttc   1380
tgctgtacaa gatgtagcac cttttctcct ctttgaacat ggtctagtga cacggtagca   1440
ccagttgcag gaaggagcca gacttgttct cagagcactg tgttcacact tttcagcaaa   1500
aatagctatg ggtgtaacat atgtattccc ttc                                1533


<210> 6064
<211> 9692
<212> DNA
<213> Homo sapiens

<220>
<221> SITE
<222> (4436)
<223> n equals a,t,g, or c

<400> 6064
ccacgccagc taattttgt attttggta gagacaggt tgcatcatgt tgcccaggct     60
ggtcttgaat gcctgagctc aagcaatcta tttgccttgg cctcccaaag tgctgggatt    120
acaggcatga gccaccacgg ccagccttct catttgtttt ttttataagg aagctatctc    180
ttcttccctc cccaactagg gtattctttt tcccttttcgt cactttgctc atgtactgta    240
ttccttcaac ttcattaatg aatccatttg gaagcagtga aaaaggcaac tcagaaagct    300
aagaagaaat agatagagga atactcagag ctatctgagt attttctta gtttgttagc     360
tctttggagc tttgaaactg gaaagaccca gggagtgatg tggagaaaga gactgagctt    420
gtaagacaca ggagcagtga gctaagggag atggagtagt ggggacaaat tctggcacat    480
tctgtctaca ctctgggtag atagaggagg gaggatggag cacccatggt gggggtatgt    540
tggtgacagc attttcccac cagccagtgt aacaagtggc tgatttgggg gaaagatggc    600
ataaacaaat gagagaatgt gtttactatt tgatgtagat gggttatttg cttcattttt    660
caaatcagtg tatataatca agaatattca gcatgtttga atagactgtc agagctggaa    720
ctctttcatt aacatctctg gcacctttag ttttagccct gaacatttta tcttaaaatt    780
aaacattacc aaatgcctta gtttatttca tttattaaat ttatattctt atttgttatt    840
tatatcagct tccaatcaga agactataca acctcctagg gtaagttaaa gtttattaaa    900
tgaattgtga atgatcattt gagggattag actgaggaac ttggtaattg agatattttg    960
ctatctgttt tgtctcacgt caaattaaga gaatggtgaa gtcattgcat gacctttgca   1020
tgaatgggtc cagttctatt ttaaaacctg tgtttggtca ttttagtgtc aatgggatgg   1080
aataaatgat ttcttaagat tgtactgact tctcacaccc aaaactggaa agtaggaata   1140
atggctatat tatctctgca atcagaagga agctgattcc aatatatcac ctcacctgtt   1200
ggattcattg gatgtgcata cacagaatga caatttcagg cttaaaaatg aggagaaatc   1260
tatactaagt tgacatcact gataattata atctataaaa taaatgtaaa tattgctgaa   1320
aacatctgtt cggagttatg attcgatcct ctcccataca aatgtttat aaacattttt   1380
tcccttaaaa ctgtgcttaa ggtttcattg taccttagat accttattaa gccatctgag   1440
gaaattgcaa gaaaggagta attttaggag ggcataaatg aagagaaaag catatttata   1500
aacatagact tatcacagtg acaggcccaa gaggtatgtt gtggacataa gctctggaaa   1560
ggattatatt gtacttagct tcctataacg gagtgatgat agatgtatct ggaatgccaa   1620
agagagtctt ctgtctgtgg ccggaggtag aggtcacata tgcttctaag tctgacaagc   1680
```

```
ctcattgtgc ctaaagggca ggtggggcgg gtatgtgtgt ctaccacagg ggtatattct    1740
agaaagattg gtgccatagc tatgttggtc acaagaggcc agcaacttaa ctggacctgt    1800
gaatcctaac acatttttctt tcccagttac tgagttcaat ttgcgatact taaagatgat    1860
tctgttttgc ttccacctct tcactgtgtt atttattctg ttgttgctat ttatgcttgc    1920
actttcatat ttttagaagt tagaatttct tgagctgaga gtggtgaagt gggaaattct    1980
gtttagaaaa ataatattaa gagaataata cagttattat taaactatta acccgacttg    2040
gcaagctttg ctttaacatt tacaggctta tttcgttgtt ttgttttttc tttttttttt    2100
gactgtagga tttactgctt actacgtaat ttaaatatta gcatatataa gttttactat    2160
aaaatgacat gacataaatt atattttat gtaaatatat tttaaatatt tttcagaaag     2220
ctgtagagga accccttaat ggtatgtggt tatttcactc ttaatccttt accagatcat    2280
aatttgatct ggcccgcaaa acagttagaa tgccctgtct atgccttagg aagaatctag    2340
gttttttttcc tctttttttc tttccttggc atctctactc ttgattattc atcaagaatt    2400
atgggctggg tgcggtggct cacgcttgcg atcccagcac cttgggaggc caaggcgggc    2460
agatcacgag gtcaagagat tgagaccatc ctggccaaca tgttgaaacc ctgtctctac    2520
tgaaaataca aaaattacct gggcatggtg gtgtgtatct gcagtcccag ctactcggga    2580
ggctgaggca ggagaattgc ttgaacccgg aaggcagatg ttgcagtgag ttgagatcat    2640
gccaccgcac tccagcctgg tgacagagtg agactctgtc tcaaaaaaaa taaaaaagaa    2700
ttatgaatat tacttttata atattctcac cactgggaaa aatgcactat tctgtgtcta    2760
agtagctgct taccttaacc aagtgatatt tgggcaaggg gatcgttgcc ttttgctact    2820
ggttgagacg aagcatggca cccctagta gagaaggatc ccaattactt ccaatttgtg     2880
atgtacacat tttagaaaga tacaggctat tgccacagag atagaccaaa acatctcatt    2940
ttctttcttt gtaaacctag atctgatttc ccaactaagt ctgtttcctt tgtgaatgct    3000
gtgggtatga tccacagaaa ggctacataa tgaaatgata gctttacaat taatttggct    3060
gtagagttgt agactagtta gcatatcatt gcatatttgt ttatttagaa atgatttcca    3120
attgtggaac ctcactaact gcctgcttgg cttgttacta atcctagcat tcaaagaatc    3180
aaaaggaatg atgaatgatg gtaagtataa aatgcactta ataattatag atcagttaaa    3240
acatggacat tggaaaacaa aaaagcttct tgaaaatgtg gctctttttt agtaaaaggg    3300
acactgtcag atgataaagg ttcacatttc ttgatgtata caacttaaat ctactttgct    3360
aaaaattgca aaactactac tgtaaaaact gtagggtgtc acgaatcaga ctccagtcat    3420
atggctccca gcaaagagaa attaccactt tttgtaaaat gtttttcaga ttccgtgtct    3480
ggtgactgta actttaagat gcctttata aggcacataa ataatctggc acaaatcttt     3540
atcattttga cagagtttct tttatgcttg tgttggtgat tttgttgcat ttaaccccat    3600
ggggacttaa catctctgct tttccaatca ggagcttggt tctaacctt tgggagatga     3660
ttaaagagag aggttgagag agagagagag agagagagag agagagagag agagatgttt    3720
cgtcctcagc tttttgcttcc attttttttt taagaactct gggctaataa cttctaatct    3780
ttatagaata tttcaaagaa atatatttgt tcttaaagat acataggttt gagatattga    3840
gtgctacaag catttatttt ggttttacct taacatatta tgattcctca gttttgttgg    3900
catttagtaa ttatgtttat gtttttatct tatcaaaaaa tgtcttctta ccttttgatat    3960
ttataatcac tcctcggtca tgtaaatagt ttgctttata ttttactgtt ttaaagtctg    4020
tgaccttacc tgccctcttc tgtagcaaag tgcagcattt aactcaggaa gctatattcc    4080
ccccaagtgt cattaatatt tgcataagat taaaaacact ccagtcggcc gggcgcggtg    4140
gctcacgcct gtaatcccag cactttggga ggccgaggcg gcggatcac aaggtcagga     4200
gatcgagacc atcctggcta acacggtgaa accccgtctc tactaaaact acaaaaaatt    4260
agccgggcat ggtggcgggc acctgtggtc ccagctactt gggaggctga ggcaggagaa    4320
tggcgtgaac ccgggaggca gagcttgcag tgagccaaga tcgtgccact acactccagc    4380
ctgggtgaca gagcaagact ccgtctccag aaaaaaaaaa aaaaaaaaaa aaaaancact    4440
ccagtcatgc attggtgaac aaagtttaaa acaacgtgta ttcagcatgg agtcacagaa    4500
tgatcctact tttgtatgtt tgtgtcacag ccttttaaaag catgtcttgt tatataagcc    4560
attaccctcc taaaaaagac tatagttcac aggaataagt taaaagacat aacaaaacat    4620
aaaatgacta gtaccaggaa ttgtgaccat ggtttgttct ggtaactgtg gcatggcatg    4680
gtttgttcca ggaattgtgg catggtttgt tcatgtttac attctgatgt cctattttt    4740
ttttttaatt tctatgtcct ttccttttcc ttggtggtgt cattgttctg tagctgtatg    4800
aagaaactaa acttttctcc attttcagga aagcaatcta agaatcttga gtgcctcttc    4860
ctttgttaat ttctcttaag atgtgacttt tttaaactac tgcatcagga aatattgtaa    4920
aacagttttg ccttgaatat ttgtgatgaa atctacgatg atcttcaaga ttctcttaat    4980
tttgctaata ttcagctgat cagaatttgt ttttaaaatg tctggctggt gggtacttcc    5040
cactgacaac tgcttattgc ttacagtatg tctgccttgt caatgaatga ggttcagggt    5100
gcttcctagg gatcagagtc agtaccattt ttctctttca tctacagctg atcagatgtt    5160
tattttactt acattaaatg aatgatggag atccaaagtg aatattatag aatattattc    5220
taggatcaac atctttttgct ttgaaaaatc aacatctctt ggctttttcct cagccaaccc    5280
agcaaacaga gattatcaga ctctgttgat tttttacttt catttggcat tggcctttttt    5340
```

2971

```
cttactgaaa ttaaaaaggc taatgatttg cctggtttct gtctctgacc tttgcaggtc   5400
tattttctta attttttagat actatatatc tgaaacttttt tttaatgtgt caactttta   5460
atggatagaa aatagacacg aatagtgatt atgtgttcat ttttcaattt tccagaataa   5520
ctgaagtgaa gtgatggact ccgatttgga gagtagtaag acgtgaaagg aatacacttg   5580
tgtttaagca ccatggcctt gatgattcac tgttggggag aagaaacaag aaaagtaact   5640
ggttgtcacc tatgagaccc ttacgtgatt gttagttaag tttttattca aagcagctgt   5700
aatttagtta ataaaataat tatgatctat gttgtttgcc caattgagat ccagttttttt   5760
gttgttatttt ttaatcaatt aggggcaata gtagaatgga caatttccaa gaatgatgcc   5820
tttcaggtcc tagggcctct ggcctctagg taaccagttt aaattggttc agggtgataa   5880
ctacttagca ctgccctggt gattacccag agatatctat gaaaaccagt ggcttccatc   5940
aaacctttgc caactcaggt tcacagcagc tttgggcagt tatggcagta tggcattagc   6000
tgagaggtgt ctgccacttc tgggtcaatg gaataataaa ttaagtacag gcaggaattt   6060
ggttggggagc atcttgtatg atctccgtat gatgtgatat tgatggagat agtggtcctc   6120
attcttgggg gttgccattc ccacattccc ccttcaacaa acagtgtaac aggtccttcc   6180
cagatttagg gtacttttat tgatggatat gtttttcctt tattcacata acccccttgaa   6240
accctgtctt gtcctcctgt tacttgcttc tgctgtacaa gatgtagcac cttttctcct   6300
ctttgaacat ggtctagtga cacggtagca ccagttgcag gaaggagcca gacttgttct   6360
cagagcactg tgttcacact tttcagcaaa aatagctatg gttgtaacat atgtattccc   6420
ttcctctgat ttgaaggcaa aaatctacag tgtttcttca cttcttttct gatctggggc   6480
atgaaaaaag caagattgaa atttgaacta tgagtctcct gcatggcaac aaaatgtgtg   6540
tcaccatcag gccaacaggc cagcccttga atggggattt attactgttg tatctatgtt   6600
gcatgataaa cattcatcac cttcctcctg tagtcctgcc tcgtactccc cttcccctat   6660
gattgaaaag taaacaaaac ccacatttcc tatcctggtt agaagaaaat taatgttctg   6720
acagttgtga tcgcctggag tacttttaga cttttagcat tcgttttta cctgtttgtg   6780
gatgtgtgtt tgtatgtgca tacgtatgag ataggcacat gcatcttctg tatggacaaa   6840
ggtggggtac ctacaggaga gcaaaggtta attttgtgct tttagtaaaa acatttaaat   6900
acaaagttct ttattggggtg gaattatatt tgatgcaaat atttgatcac ttaaaacttt   6960
taaaacttct aggtaatttg ccacgctttt tgactgctca ccaataccct gtaaaaatac   7020
gtaattcttc ctgtttgtgt aataagatat tcatatttgt agttgcatta ataatagtta   7080
tttcttagtc catcagatgt tcccgtgtgc ctctttttatg ccaaattgat tgtcatattt   7140
catgttggga ccaagtagtt tgcccatggc aaacctaaat ttatgacctg ctgaggcctc   7200
tcagaaaact gagcatacta gcaagacagc tcttcttgaa aaaaaaaata tgtatacaca   7260
aatatatacg tatatctata tatacgtatg tatatacaca catgtatatt cttccttgat   7320
tgtgtagctg tccaaaataa taacatatat agagggagct gtattccttt atacaaatct   7380
gatggctcct gcagcacttt ttccttctga aaatatttac attttgctaa cctagtttgt   7440
tactttaaaa atcagttttg atgaaaggag ggaaaagcag atggacttga aaaagatcca   7500
agctcctatt agaaaaggta tgaaaatctt tatagtaaaa ttttttataa actaaagttg   7560
tacctttttaa tatgtagtaa actctcattt atttggggtt cgctcttgga tctcatccat   7620
ccattgtgtt ctctttaatg ctgcctgcct tttgaggcat tcactgccct agacaatgcc   7680
accagagata gtgggggaaa tgccagatga aaccaactct tgctctcact agttgtcagc   7740
ttctctggat aagtgaccac agaagcagga gtcctcctgc ttgggcatca ttgggccagt   7800
tccttctctt taaatcagat ttgtaatggc tcccaaattc catcacatca catttaaatt   7860
gcagacagtg ttttgcacat catgtatctg ttttgtccca taatatgctt tttactccct   7920
gatcccagtt tctgctgttg actcttccat tcagttttat ttattgtgtg ttctcacagt   7980
gacaccattt gtccttttct gcaacaacct ttccagctac ttttgccaaa ttctatttgt   8040
cttctccttc aaaacattct cctttgcagt tcctcttcat ctgtgtagct gctctttttgt   8100
ctcttaactt accattccta tagtacttta tgcatctctg cttagttcta ttagtttttt   8160
ggccttgctc ttctccttga tttttaaaatt ccttctatag ctagagcttt tctttctttc   8220
attctctctt cctgcagtgt tttgcataca tcagaagcta ggtacataag ttaaatgatt   8280
gagagttggc tgtatttaga tttatcactt tttaataggg tgagcttgag agttttcttt   8340
ctttctgttt tttttttttt tttttttgac taatttcaca tgctctaaaa accttcaaag   8400
gtgattattt ttctcctgga aactccaggt ccattctgtt taaatcccta agaatgtcag   8460
aattaaaata acagggctat cccgtaattg gaaatatttc tttttttcagg atgctatagt   8520
caatttagta agtgaccacc aaaattgttat ttgcactaac aaagctcaaa acacgataag   8580
tttactcctc catctcagta ataaaaatta agctgtaatc aaccttctag gtttctcttg   8640
tcttaaaatg ggtattcaaa aatgggggatc tgtggtgtat gtatggaaac acatactcct   8700
taatttacct gttgttggaa actggagaaa tgattgtcgg gcaaccgttt atttttttatt   8760
gtatttttatt tggttgaggg attttttttat aaacagtttt acttgtgtca tattttaaaa   8820
ttactaactg ccatcacctg ctgggggtcct ttgttaggtc attttcagtg actaataggg   8880
ataatccagg taactttgaa gagatgagca gtgagtgacc aggcagtttt tctgcctta    8940
gctttgacag ttcttaatta agatcattga agaccagctt tctcataaat ttctcttttt   9000
```

2972

```
gaaaaaaaga aagcatttgt actaagctcc tctgtaagac aacatcttaa atcttaaaag   9060
tgttgttatc atgactggtg agagaagaaa acattttgtt tttattaaat ggagcattat   9120
ttacaaaaag ccattgttga gaattagatc ccacatcgta taaatatcta ttaaccattc   9180
taaataaaga gaactccagt gttgctatgt gcaagatcct ctcttggagc ttttttgcat   9240
agcaattaaa ggtgtgctat ttgtcagtag ccattttttt gcagtgattt gaagaccaaa   9300
gttgttttac agctgtgtta ccgttaaagg tttttttttt tatatgtatt aaatcaattt   9360
atcactgttt aaagctttga atatctgcaa tctttgccaa ggtacttttt tatttaaaaa   9420
aaaacataac tttgtaaata ttaccctgta atattatata tacttaataa aacattttaa   9480
gctattttgt tgggctattt ctattgctgc tacagcagac cacaagcaca tttctgaaaa   9540
atttaattta ttaatgtatt tttaagttgc ttatattcta ggtaacaatg taaagaatga   9600
tttaaaatat taattatgaa ttttttgagt ataatacccа ataagctttt aattagagca   9660
gagttttaat taaaagtttt aaatcagtcc aa                                  9692


<210> 6065
<211> 16423
<212> DNA
<213> Homo sapiens

<400> 6065
tttctttttt aagcacttaa atatagatcc ggtggtatgg atgagaaaac aattgcttta     60
cttgttgctg gactagtgat cactgtcatt gtcattgttg gagccattct tttcgtccca    120
ggtaagatgt gcagttccta ggcaggaacg caggaggtag atgagtgcat tccaaggtga    180
ggagggctgc attagtttcc tagggctgtt ggaacagatg accacaaact gggtggctta    240
aacaatagca attccctttc catgctggag gccataagtc tgaaatcagg acgtcatcag    300
ggccacactc cctctcaagg ctgtatggaa gaatccattt cttggctctt ctagcttctg    360
gaatttgctg aagaatgaca gtgtttatca ttccttagtt tgcggcagca taactccacc    420
ctctgcctct ctggtcacat tgcctcctcc ttcctctatg tctttgcctc tgtgtttttg    480
ttaaatctcc ctcagcctct ctcttatgag cacatttgtc attggaatta gagcccactc    540
atataatcca gggtaagctc ctcctttcag atccttaact tcatcatatc ttttgccata    600
taatgcagta ttcactcttt tgctgtatta ggtaatattc acaggtttta gggattagga    660
ggtagaaata attttagggc catcattcaa ctcactacag aggcaaactt cattggccaa    720
gacatgaaag tagaatgaat gtgggaacca agtctggaaa ttggcagttg catttggagg    780
atgggaatgt gagtgggaaa tgaggatatg tagcacatgt aaagaaaagc aaaggaaggc    840
tgggactcaa·cctaataact atagcacacc atcgtttgtg gagaagaatg cagtgcaggt    900
gtaatattta ggaacatggg cttggcagct ctattggtat ctgaagttag tgaagacagc    960
aggaagaagg aggtgaattc agaagacaac ttgaaggaac aattgatttg actttggggc   1020
atactgaata cagcagatga agggaacagt aaaagatgaa tacacagttt ctcactggaa   1080
ttctgtaaac tagttaagaa ggaggcagag ccaattcaag gtttcagcat gttgaaactt   1140
aaatgttgag atttagatgt cttaagtttg gtcttaatca aaaaatagtc actaattttg   1200
tgtgaggttt tcagggaaac gtatattttt aaaattttca cagttgtcaa gcacagaatt   1260
tagattagta catttaaaaa gtatgtagga aaatatttta aatgttttta tttattgaca   1320
ggtgaatatt cattaaagaa tgctactggc cttggtttaa ttgtgacttc tacagggata   1380
ttaatattac ttcactacta tgtgtttagt acaggtgagt tttcattgtt acagtatgat   1440
tttgtctacc ttttttcattt acaaaacagc agttttggtg aaaatgctca tataaatttt   1500
ttacaactca ataagagtag gtttattaaa agatttttca tgctattctt agtgacattt   1560
tcccattcat attaatttta aggttattct aggttagctg ttttgtaaaa agtgactttc   1620
atatgtattt gatgccaatc agcataattt taaattatgc catataactt cttaatgatt   1680
attttcatat tctaatttca gttttttgaa gttataagtg gatgttaaac gcagtctttc   1740
tcttcttttg ctaagcttct gcttctgcat taagaagact ggttctataa aatggaatta   1800
tgaatcacaa atagtagaaa catatttgtt ttaattatta gcaaacctta atactgtagt   1860
tttaagagat ggtatggaaa tccaaactat aatcagtatc attttcactg cattttgaaa   1920
gtagatcact accatattta gttattacta ttaaagagtc acatttaaca cttggtctta   1980
gagcctatct ctggctcgtt gtacattgga aaggtattag tttgttataa aatgacatct   2040
agagatagag agcatgatgt ttacagtcag gtatttgcat aatggttccc tcagcaagag   2100
caattccatg tgcatgtgga gaagacattc ataatagcca ttcatattgt aaaatgcaca   2160
agtgtggtaa aagcagcatt gttctaagat ttagggtaaa aacttccagt ccagcttagc   2220
tgactgtgaa aattaaaggc tgccgaatgt gtgaatttgg agctgactac ttgtgtggaa   2280
gggttagatc actgagttaa catctaccgt caaacaatga actccagagt cagtctttgg   2340
tcttaggaga tccctgatta taccaaatgc aagtggaagt tattgctttt taaatactct   2400
tgacatgctt ctgttacatc cttttccttc ctccagcgat tggattaacc tccttcgtca   2460
```

```
ttgccatatt ggttattcag gtgatagcct atatcctcgc tgtggttgga ctgagtctct    2520
gtattgcggg taagagtcat cttctgtag acctaatttg ggttactttt ggacagagct    2580
cttcttcctt tttcttttc tttctctctt tttaaaaata tatagacttg atttttttt    2640
ttagtgcagt ttttggttca tggcaaaatt gagtggaaag tacattcaca tggatatttt    2700
tatgtggaca taagttttca attccatttg ggcaaatacc aaggagtgca attacgggac    2760
tgtaaagagt atgttgaaat aaactgccaa actctctgta tcaaaatagc tgtaccattt    2820
tgtattatca ccaccaataa ataagagttt ttgttcattc atatacttga cagcatttag    2880
cattctgagc ttttcttttt aaacttccaa tttaccccag tggtaatagt gctttcctcc    2940
tcgctacaaa gatattagct gtatatatgg cttggtggct gattgttcta gcacccaaac    3000
tgatatgcct gtatttgtgg aagagctttt aaaataactg ggctcaaatt ggttggagcc    3060
ttagacttga aacaccagtt cccatttctt gatatgataa ggtatgtgtt atgcaaagga    3120
gggctttgtt cttctaataa ttttgagtca ttttactggt taagttaata aacatatatg    3180
gataattttt gttttttgat cgttagaata actctcttaa aacttgggat tattactgtt    3240
ttttagtaag ttatttcata tgcttttcta atacagaatt ttatttgttt ttacagcgtg    3300
tataccaatg catggccctc ttctgatttc aggtttgagt atcttagctc tagcacaatt    3360
acttggacta gtttatatga aatttgtggg taagtcaatc ttattttcat taacctatgc    3420
caataatttc agatatatca cttagaaaat gctttttagt ttgttcttcc agtttaggac    3480
caaaaatgag aaaatacaat tggagtgatt cgaggataat taaagagggt agaagacata    3540
taggattttt agttggttct tccagtttaa gaccagaagt cagaaaatac aattggaatg    3600
atttgagggt aattaaagag ggtagaagac atataggatt aatgaaaatt tggtttccaa    3660
agtagtttaa aggaaaatgg ctttatctat tagaatgtgt accttttat actaagtaaa    3720
aggggagaga tctttgagga tccattttaa gtaatagaat aggattttta attgttccag    3780
tgtttctgtg atagagctgt cctgcacaga cctgtttgtt tgtcacttgc tcttttctt    3840
gcagacatag acaccccaga caggaattaa aattcacaat ctatcaattt tgttcattta    3900
aagagcagtg acctctaatg catgacttta aaacagttct agttaaaacc aatataatga    3960
aaacattgag tttcaaaatt taggctttta ctcctttaa aatcaattat tagtaagtat    4020
ggaatttact tcattgtttc taacttgtat atttaatctg ccaatttca agtaacattt    4080
ctgcataaat tcttattttt tattgagata tatgtacaca gagagatatt ttcaattgtg    4140
cctgaaacta atgttatctt acctaagctc aagatgttcc caataatgta atttatatta    4200
gtttccgttt tttaaaaaaa ttatattttt atgaaataaa acatactctt aaccacctat    4260
caaaataatc aaaagttata aattaatgga gtaaaaaaat agtgtttctg ctttgcttta    4320
ggtaaacttt gctgtatgtg tttctaaaac ttaatacgaa acttgaattg ttatagtcaa    4380
ataatttctc atatgactca cataatagtt tcaaaaaact tttaccttta tttctgaact    4440
ttggttcttg atgattgtta attgaattca attctgtcat atattctgtg tctttcttta    4500
attaatgctt attagataaa taattaaaat acttaactaa tatctgcgta tccttagcat    4560
atgagttcat aagtcttagt tgttgctcaa tgaaattttc taattttata ccacataatg    4620
ccataaaata caatggagac atctaaagca gaatggaatt catgtggtag ctacagtgaa    4680
catcttgaat gttggtgcat attctatttt tgttacatct tccaatcacc atgtgtctgg    4740
ttctggaaga tgacactcct ggttttgttg ctccccacaa atgcctgaga atagtgtgtg    4800
atttgcagta tccatacaac tctggtgaag tagtatgaga tacctttggc tgacgggcag    4860
cacgctctta ttttttcctc actatctggg ttgtcctccc ttttactccc atgccacccc    4920
atgccttcca tatctagcat agaatgatct tcagtacagt tgccagcagg tctggtgaca    4980
atgtctcaag tggaactaag cattgtctat ctgccacctc cttaacttca ctctcctgcc    5040
ttctccatca cttacgttcc tccaagcctg tgaaaccact gtactgtacc tgtcactgtt    5100
ctgacattaa aattaaaatg acttaaatct tgacaagtac cccaaattat ttttctttg    5160
tcataggtta gcatataagt atactatatg ctaaaattta tgctatatgt ttaaaattta    5220
gtgcaatttt attgatagtg tcctaatttt attgatagta tcctaaatta acttttaaa    5280
tcaacttgtc tgatgccagg gttcagaggg acacctacag tcagttgaaa ggcaagaaga    5340
gacaaggtac aggaaagttg ctctttagat aacatggtag actaggagga acattaatat    5400
ggtttgctta tataatctga ctgtgtaaat ctgaatctat gtaacattaa ggttgcaaat    5460
ttgagcgttt atattaggaa gttaaaattt taagtgtctc caaaataatt ttactcatt    5520
gcacgtgttc tgttttagaa aagcctaatg attgtgtttt gatttaaatg caataaaatc    5580
ctcaaatagt taaaaatcca agctttctct tcaagaagaa gttaatgtcg ctatgagatt    5640
tttaactttt ataattttta ttatttccaa ctttaaattt gtagccttaa tttgctattt    5700
taaagagtag gcctttcact ttctacaact ttctgtgaaa gtgactttca ctttctattt    5760
tttaactttt taaactgtgt tgtatttttt ttctttatt ggaagcattt taattttata    5820
agatgagaaa aaggactggg cacaataact taatgtgaaa gcatagaaaa gattacaaga    5880
acctaaccaa actcactaaa gttgggcttg ttgtttgtag agaacgttta tataattata    5940
aggatcaata ctttctcatt tttaaagcca ttaccagtta gttcaatata agggcatata    6000
gtgttttgat acaaatcaat ctggtagcag taagtaccat atttaccaca acatcccaga    6060
tttttagaat gatgcatatg cagaactata cgtagaattt atatctatgt atagatacat    6120
```

2974

```
attcagatat tttcttgttc aatttaagga gaggtaaatt tggtatcaat agaaaaaatg    6180
tttctgaaaa atttaaaccc tggaaatgta tttatggcat ggagtcagat gtttcaggga    6240
gagaagaaca aatcaagaag cattgcaagt atgctcatat ggaatgctta aggcttgtgg    6300
ttaaaaaata tatatatatg gctgtcaatg tcttaggctc atggtagcag cagaaatcgt    6360
aataattctt ttgtcacatg ggttatatcc atattggaga gaattaactc aggtgaaatt    6420
aacttgtaca ctgtttggtt ttataatatt tagagggatc acaactgact gatgtccctt    6480
tgaagtacca ttcttcataa atcttttttt ttcagaatgg gccagccaac tgtgacatcc    6540
cttggatcgg agatttagaa ctagaaagta ttctttctac attattaggg aagaaaagga    6600
gttacttggc ggttagcaat attctatttt gttttgtttt gtttttagag acagggtctc    6660
attatgttga ccaggctggc ctcgagctcc tgggctcaag caatgctccc acctcagcct    6720
cccaagtagc tgggactaca ggcatgtgcc actacacctg gcagtgttta ttctgataaa    6780
tacatttatg agctcaaaaa tgtaactcta aaaccttatc tctgaacttc catattacca    6840
tcagaaattt agatagttgt ttagttctct tttctttgt agaacataga tataaggcat    6900
ggtttcattg aagtcagttg tatatacatg taactatcct gatgttccca aataaagctc    6960
tgtatttctg cttagtttat tggggaggct gctaaatgta gtgcatccca acccatttta    7020
ccctgttcta ctttaaaaag aggttggctt cttgtttgga tacaaggacc aagtcactcc    7080
cccaggttcc tccacagtaa gggaggccta tttaaagccg cccatggcac taacagaaac    7140
tggactccta tgagctcaga tacataactg ggcctcacag gggtgggaca gtatgtagtc    7200
taggaattgg aaggatccat tccatatcaa agaactgaag catcgtgttg ccctctcagc    7260
agcaagagta aggtgatgcc cctgtcagtt atagttcctg agttcctctg tctttgattc    7320
tttgcctatt agccagctag ctcaccctct tgtttatgcc actgtttttt atcctattca    7380
tgccttctca cagacaactt ttcttaccta cagctttgga ctcatccttg tctcctttct    7440
gtttcttttt cactttccct tcccatcacc aactttctgg gttttttttct gtttcttctt    7500
agagtccagt ggcagggaga aacttgtcag tccagtctgt tgccattttt cctgtttgag    7560
aaagactcac cagcttttgg ctggctcaca gattggcttt ccttgggtca ggacccaccc    7620
ttttccctgc cagctttgga agcttgacag aattcgagtg tgcagtggtg gtaaataaat    7680
agtaaggaac acagagcagt cctggaggcg tgcctccatc tgctgatgag aaaatccagt    7740
gctgtcatcc agcccaggtc ccagcggaat gggcctctct gttcagtagg atccccctcc    7800
tgctgagtgg ttcatggcat gtttctgttc aacgcttttc catctgtagg attcttattc    7860
tgtatttatt tgttttttttg ggttttttta tttttgaga tggagtctcg ctctgtcgcc    7920
caggctggag tgcagtggca cgaccccagc tcgctgcagc ctctgcctcc caggacgagg    7980
gagatcctcc cacctcagcc ttccacgtag ctgggactac aggcatgcac cacaggcatg    8040
caccaccacg ccagctaatt tttgtatttt tggtagagac agggttgcat catgttgccc    8100
aggctggtct tgaatgcctg agctcaagca atctatttgc cttggcctcc caaagtgctg    8160
ggattacagg catgagccac cacggccagc cttctcattt gtttttttta taaggaagct    8220
atctcttctt ccctccccaa ctagggtatt ctttttccct ttcgtcactt tgctcatgta    8280
ctgtattcct tcaacttcat taatgaatcc atttggaagc agtgaaaaag gcaactcaga    8340
aagctaagaa gaaatagata gaggaatact cagagctatc tgagtatttt ctttagtttg    8400
ttagctcttt ggagctttga aactggaaag acccagggag tgatgtggag aaagagactg    8460
agcttgtaag acacaggagc agtgagctaa gggagatgga gtagtgggga caaattctgg    8520
cacattctgt ctacactctg ggtagataga ggagggagga tggagcaccc atggtggggg    8580
tatgttggtg acagcatttt cccaccagcc agtgtaacaa gtggctgatt tggggggaaag    8640
atggcataaa caaatgagag aatgtgttta ctatttgatg tagatgggtt atttgcttca    8700
tttttcaaat cagtgtatat aatcaagaat attcagcatg tttgaataga ctgtcagagc    8760
tggaactctt tcattaacat ctctggcacc tttagtttta gccctgaaca ttttatctta    8820
aaattaaaca ttaccaaatg ccttagttta tttcatttat taaatttata ttcttatttg    8880
ttatttatat cagcttccaa tcagaagact atacaacctc ctagggtaag ttaaagttta    8940
ttaaatgaat tgtgaatgat catttgaggg attagactga ggaacttggt aattgagata    9000
ttttgctatc tgttttgtct cacgtcaaat taagagaatg ttgaagtcat tgcatgacct    9060
ttgcatgaat gggtccagtt ctattttaaa acctgtgttt ggtcatttta gtgtcaatgg    9120
gatggaataa atgatttctt aagattgtac tgacttctca cacccaaaac tggaaagtag    9180
gaataatggc tatattatct ctgcaatcag aaggaagctg attccaatat atcacctcac    9240
ctgttggatt cattggatgt gcatacacag aatgacaatt tcaggcttaa aaatgaggag    9300
aaatctatac taagttgaca tcactgataa ttataatcta aaaataaat gtaaatattg    9360
ctgaaaacat ctgttcggag ttatgattcg atcctctccc atacaaatgt tttataaaca    9420
tttttttccct taaaactgtg cttaaggttt cattgtacct tagatacctt attaagccat    9480
ctgaggaaat tgcaagaaag gagtaatttt aggagggcat aaatgaagag aaaagcatat    9540
ttataaacat agacttatca cagtgacagg cccaagaggt atgttgtgga cataagctct    9600
ggaaaggatt atattgtact tagcttccta taacgagtg atgatagatg tatctggaat    9660
gccaaagaga gtcttctgtc tgtggccgga ggtagaggtc acatatgctt ctaagtctga    9720
caagcctcat tgtgcctaaa gggcaggtgg ggcgggtatg tgtgtctacc acagggtat    9780
```

2975

```
attctagaaa gattggtgcc atagctatgt tggtcacaag aggccagcaa cttaactgga   9840
cctgtgaatc ctaacacatt ttctttccca gttactgagt tcaatttgcg atacttaaag   9900
atgattctgt tttgcttcca cctcttcact gtgttattta ttctgttgtt gctatttatg   9960
cttgcacttt catattttta gaagttagaa tttcttgagc tgagagtggt gaagtgggaa  10020
attctgttta gaaaaataat attaagagaa taatacagtt attattaaac tattaacccg  10080
actaaacaag ctttgcttta acatttacag gcttatttcg ttgtttgtt tttctttt    10140
tttttgactg taggatttac tgcttactac gtaatttaaa tattagcata tataagtttt  10200
actataaat gacatgacat aaattatatt tttatgtaaa tatattttaa atatttttca  10260
gaaagctgta gaggaacccc ttaatggtat gtggttattt cactcttaat cctttaccag  10320
atcataattt gatctggccc gcaaacagt tagaatgccc tgtctatgcc ttaggaagaa  10380
tctaggtttt tttcctcttt ttttcttcc ttggcatctc tactcttgat tattcatcaa  10440
gaattatggg ctgggtgcgg tggctcacgc ttgcgatccc ggcaccttgg gaggccaagg  10500
cgggcagatc acgaggtcaa gagattgaga ccatcctggc caacatgttg aaaccctgtc  10560
tctactgaaa atacaaaaat tacctgggca tggtggtgtg tatctgcagt cccagctact  10620
cgggaggctg aggcaggaga attgcttgaa cccggaaggc agatgttgca gtgagttgag  10680
atcatgccac cgcactccag cctggtgaca gagtgagact ctgtctcaaa aaaaataaaa  10740
aagaattatg aatattactt ttataatatt ctcaccactg ggaaaatgc actattctgt  10800
gtctaagtag ctgcttacct taaccaagtg atatttgggc aaggggatcg ttgccttttg  10860
ctactggttg agacgaagca tggcacccccc tagtagagaa ggatcccaat tacttccaat  10920
ttgtgatgta cacattttag aaagatacag gctattgcca cagagataga ccaaaacatc  10980
tcattttctt tctttgtaaa cctagatctg atttcccaac taagtctgtt tcctttgtga  11040
atgctgtggg tatgatccac agaaaggcta cataatgaaa tgatagcttt acaattaatt  11100
tggctgtaga gttgtagact agttagcata tcattgcata tttgtttatt tagaaatgat  11160
ttccaattgt ggaacctcac taactgcctg cttggcttgt tactaatcct agcattcaaa  11220
gaatcaaaag gaatgatgaa tgatggtaag tataaaatgc acttaataat tatagatcag  11280
ttaaaacatg gacattggaa aacaaaaaag cttcttgaaa atgtggctct tttttagtaa  11340
aagggacact gtcagatgat aaaggttcac atttcttgat gtatacaact taaatctact  11400
ttgctaaaaa ttgcaaaact actactgtaa aaactgtagg gtgtcacgaa tcagactcca  11460
gtcatatggc tcccagcaaa gagaaattac cacttttgt aaaatgtttt tcagattccg  11520
tgtctggtga ctgtaacttt aagatgcctt ttataaggca cataaataat ctggcacaaa  11580
tctttatcat tttgacagag tttctttat gcttgtgttg gtgattttgt tgcatttaac  11640
ccatgggac ttaacatctc tgcttttcca atcaggagct tggttctaac ctttttggga g 11700
atgattaaag agagaggttg agagagagag agagagagag agagagagag agagagagag  11760
agagagagat gtttcgtcct cagcttttgc ttccattttt tttttaagaa ctctgggcta  11820
ataacttcta atctttatag aatatttcaa agaaatatat ttgttcttaa agatacatag  11880
gtttgagata ttgagtgcta caagcattta tttggtttt accttaacat attatgattc  11940
ctcagttttg ttggcatta gtaattatgt ttatgttttt atcttatcaa aaaatgtctt  12000
cttacctttg atatttataa tcactcctcg gtcatgtaaa tagtttgctt tatatttttac 12060
tgttttaaag tctgtgacct tacctgccct cttctgtagc aaagtgcagc atttaactca  12120
ggaagctata ttcccccaa gtgtcattaa tatttgcata agattaaaaa cactccagtc  12180
ggccgggcgc ggtggctcac gcctgtaatc ccagcacttt gggaggccga ggcgggcgga  12240
tcacaaggtc aggagatcga gaccatcctg gctaacacgg tgaaaccccg tctctactaa  12300
aactacaaaa aattagccgg gcatggtggc gggcacctgt ggtcccagct acttgggagg  12360
ctgaggcagg agaatggcgt gaacccggga ggcagagctt gcagtgagcc aagatcgtgc  12420
cactacactc cagcctgggt gacagagcaa gactccgtct caagaaaaaa aaaaaaaaaa  12480
aaaaaaaaaa aacactccag tcatgcattg gtgaacaaag tttaaaacaa cgtgtattca  12540
gcatggagtc acagaatgat cctacttttg tatgtttgtg tcacagcctt taaaagcatg  12600
tcttgttata taagccatta ccctcctaaa aaagactata gttcacagga ataagttaaa  12660
agacataaca aaacataaaa tgactagtac caggaattgt gaccatggtt tgttctggta  12720
actgtggcat ggcatggttt gttccaggaa ttgtggcatg gtttgttcat gtttacattc  12780
tgatgtccta ttttttttt ttaatttcta tgtcctttcc ttttccttgg tggtgtcatt  12840
gttctgtagc tgtatgaaga aactaaactt ttctccattt tcaggaaagc aatctaagaa  12900
tcttgagtgc ctcttccttt gttaatttct cttaagatgt gactttttta aactactgca  12960
tcaggaaata ttgtaaaaca gttttgcctt gaatatttgt gatgaaatct acgatgatct  13020
tcaagattct cttaattttg ctaatattca gctgatcaga atttgttttt aaaatgtctg  13080
gctggtgggt acttcccact gacaactgct tattgcttac agtatgtctg ccttgtcaat  13140
gaatgaggtt cagggtgctt cctagggatc agagtcagta ccatttttct ctttcatcta  13200
cagctgatca gatgtttatt ttacttacat taaatgaatg atggagatcc aaagtgaata  13260
ttatagaata ttattctagg atcaacatct tttgctttga aaaatcaaca tctcttggct  13320
tttcctcagc caacccagca aacagagatt atcagactct gttgattttt tactttcatt  13380
tggcattggc ctttttctta ctgaaattaa aaaggctaat gatttgcctg gtttctgtct  13440
```

2976

```
ctgacctttg caggtctatt ttcttaattt ttagatacta tatatctgaa actttttta   13500
atgtgtcaac tttttaatgg atagaaaata gacacgaata gtgattatgt gttcatttt    13560
caattttcca gaataactga agtgaagtga tggactccga ttagaagagt agtaagacgt   13620
gaaaggaata cacttgtgtt taagcaccat ggccttgatg attcactgtt ggggagaaga   13680
aacaagaaaa gtaactggtt gtcacctatg agacccttac gtgattgtta gttaagtttt   13740
tattcaaagc agctgtaatt tagttaataa aataattatg atctatgttg tttgcccaat   13800
tgagatccag ttttttgttg ttatttttaa tcaattaggg gcaatagtag aatggacaat   13860
ttccaagaat gatgcctttc aggtcctagg gcctctggcc tctaggtaac cagtttaaat   13920
tggttcaggg tgataactac ttagcactgc cctggtgatt acccagagat atctatgaaa   13980
accagtggct tccatcaaac cttgtgccaac tcaggttcac agcagctttg ggcagttatg   14040
gcagtatggc attagctgag aggtgtctgc cacttctggg tcaatggaat aataaattaa   14100
gtacaggcag gaatttggtt gggagcatct tgtatgatct ccgtatgatg tgatattgat   14160
ggagatagtg gtcctcattc ttggggggttg ccattcccac attcccccctt caacaaacag  14220
tgtaacaggt ccttcccaga tttagggtac ttttattgat ggatatgttt tccttttatt   14280
cacataaccc cttgaaaccc tgtcttgtcc tcctgttact tgcttctgct gtacaagatg   14340
tagcaccttt tctcctcttt gaacatggtc tagtgacacg gtagcaccag ttgcaggaag   14400
gagccagact tgttctcaga gcactgtgtt cacacttttc agcaaaaata gctatggttg   14460
taacatatgt attcccttcc tctgatttga aggcaaaaat ctacagtgtt tcttcacttc   14520
ttttctgatc tggggcatga aaaaagcaag attgaaattt gaactatgag tctcctgcat   14580
ggcaacaaaa tgtgtgtcac catcaggcca acaggccagc ccttgaatgg ggatttatta   14640
ctgttgtatc tatgttgcat gataaacatt catcaccttc ctcctgtagt cctgcctcgt   14700
actccccttc ccctatgatt gaaaagtaaa caaaacccac atttcctatc ctggttagaa   14760
gaaaattaat gttctgacag ttgtgatcgc ctggagtact tttagacttt tagcattcgt   14820
ttttttacctg tttgtggatg tgtgtttgta tgtgcatacg tatgagatag gcacatgcat  14880
cttctgtatg gacaaaggtg gggtacctac aggagagcaa aggttaattt tgtgctttta   14940
gtaaaaacat ttaaatacaa agttctttat tgggtggaat tatatttgat gcaaatattt   15000
gatcacttaa aacttttaaa acttctaggt aatttgccac gcttttgac tgctcaccaa    15060
taccctgtaa aaatacgtaa ttcttcctgt ttgtgtaata agatattcat atttgtagtt   15120
gcattaataa tagttatttc ttagtccatc agatgttccc gtgtgcctct tttatgccaa   15180
attgattgtc atatttcatg ttgggaccaa gtagtttgcc catggcaaac ctaaatttat   15240
gacctgctga ggcctctcag aaaactgagc atactagcaa gacagctctt cttgaaaaaa   15300
aaaatatgta tacacaaata tatacgtata tctatatata cgtatgtata tacacacatg   15360
tatattcttc cttgattgtg tagctgtcca aaataataac atatatagag ggagctgtat   15420
tcctttatac aaatctgatg gctcctgcag cactttttcc ttctgaaaat atttacattt   15480
tgctaaccta gtttgttact ttaaaaatca gttttgatga aaggagggaa aagcagatgg   15540
acttgaaaaa gatccaagct cctattagaa aaggtatgaa aatctttata gtaaaatttt   15600
ttataaacta aagttgtacc ttttaatatg tagtaaactc tcatttattt ggggttcgct   15660
cttggatctc atccatccat tgtgttctct ttaatgctgc ctgccttttg aggcattcac   15720
tgccctagac aatgccacca gagatagtgg gggaaatgcc agatgaaacc aactcttgct   15780
ctcactagtt gtcagcttct ctggataagt gaccacagaa gcaggagtcc tcctgcttgg   15840
gcatcattgg gccagttcct tctctttaaa tcagatttgt aatggctccc aaattccatc   15900
acatcacatt taaattgcag acagtgtttt gcacatcatg tatctgtttt gtcccataat   15960
atgcttttta ctccctgatc ccagtttctg ctgttgactc ttccattcag ttttatttat   16020
tgtgtgttct cacagtgaca ccatttgtcc ttttctgcaa caacctttcc agctactttt   16080
gccaaattct atttgtcttc tccttcaaaa cattctcctt tgcagttcct cttcatctgt   16140
gtagctgctc ttttgtctct taacttacca ttcctatagt actttatgca tctctgctta   16200
gttctattag ttttttggcc ttgctcttct ccttgatttt aaaattcctt ctatagctag   16260
agcttttctt tctttcattc tctcttcctg cagtgttttg catacatcag aagctaggta   16320
cataagttaa atgattgaga gttggctgta tttagattta tcactttta atagggtgag    16380
cttgagagtt ttctttcttt ctgtttttt ttttggttt ttt                       16423
```

```
aagctgtaga ggaaccccctt aatggtatgt ggttatttca ctcttaatcc tttaccagat          60
cataatttga tctggcccgc aaaacagtta gaatgccctg tctatgcctt aggaagaatc          120
taggtttttt tcctctttttt ttctttcctt ggcatctcta ctcttgatta ttcatcaaga         180
```

2977

```
attatgggct gggtgcggtg gctcacgctt gcgatcccag caccttggga ggccaaggcg   240
ggcagatcac gaggtcaaga gattgagacc atcctggcca acatgttgaa accctgtctc   300
tactgaaaat acaaaaatta cctgggcatg gtggtgtgta tctgcagtcc cagctactcg   360
ggaggctgag gcaggagaat tgcttgaacc cggaaggcag atgttgcagt gagttgagat   420
catgccaccg cactccagcc tggtgacaga gtgagactct gtctcaaaaa aaataaaaaa   480
gaattatgaa tattactttt ataatattct caccactggg aaaaatgcac tattctgtgt   540
ctaagtagct gcttacctta accaagtgat atttgggcaa ggggatcgtt gccttttgct   600
actggttgag acgaagcatg gcacccccta gtagagaagg atcccaatta cttccaattt   660
gtgatgtaca cattttagaa agatacaggc tattgccaca gagatagacc aaaacatctc   720
attttctttc tttgtaaacc tagatctgat ttcccaacta agtctgtttc ctttgtgaat   780
gctgtgggta tgatccacag aaaggctaca taatgaaatg atagctttac aattaatttg   840
gctgtagagt tgtagactag ttagcatatc attgcatatt tgtttattta gaaatgattt   900
ccaattgtgg aacctcacta actgcctgct tggcttgtta ctaatcctag cattcaaaga   960
atcaaaagga atgatgaatg atggtaagta taaaatgcac ttaataatta tagatcagtt  1020
aaaacatgga cattggaaaa caaaaaagct tcttgaaaat gtggctcttt tttagtaaaa  1080
gggacactgt cagatgataa aggttacat ttcttgatgt atacaactta aatctacttt  1140
gctaaaaatt gcaaaactac tactgtaaaa actgtagggt gtcacgaatc agactccagt  1200
catatggctc ccagcaaaga gaaattacca cttttgtaa aatgttttc agattccgtg  1260
tctggtgact gtaactttaa gatgcctttt ataaggcaca taaataatct ggcacaaatc  1320
tttatcattt tgacagagtt tcttttatgc ttgtgttggt gattttgttg catttaaccc  1380
atgggactt aacatctctg cttttccaat caggagcttg gttctaacct tttgggagat  1440
gattaaagag agaggttgag agagagagag agagagagag agagagagag agagagatgt  1500
ttcgtcctca gcttttgctt ccattttttt tttaagaact ctgggctaat aacttctaat  1560
ctttatagaa tatttcaaag aaatatattt gttcttaaag atacataggt ttgagatatt  1620
gagtgctaca agcatttatt ttggtttac cttaacatat tatgattcct cagttttgtt  1680
ggcatttagt aattatgttt atgtttttat cttatcaaaa aatgtcttct tacctttgat  1740
atttataatc actcctcggt catgtaaata gtttgcttta tattttactg ttttaaagtc  1800
tgtgacctta cctgccctct tctgtagcaa agtgcagcat ttaactcagg aagctatatt  1860
ccccccaagt gtcattaata tttgcataag attaaaaaca ctccagtcgg ccgggcgcgg  1920
tggctcacgc ctgtaatccc agcactttgg gaggccgagg cgggcggatc acaaggtcag  1980
gagatcgaga ccatcctggc taacacggtg aaacccgtc tttactaaaa ctacaaaaaa  2040
ttagccgggc atggtggcgg gcacctgtgg tcccagctac ttgggaggct gaggcaggag  2100
aatggcgtga acccgggagg cagagcttgc agtgagccaa gatcgtgccc ctacactcca  2160
gcctgggtga cagagcaaga ctccgtctca agaaaaaaaa aaaaaaaaaa aaaaaaaaca  2220
ctccagtcat gcattggtga acaaagttta aaacaacgtg tattcagcat ggagtcacag  2280
aatgatccta cttttgtatg tttgtgtcac agcctttaaa agcatgtctt gttatataag  2340
ccattaccct cctaaaaaag actatagttc acaggaataa gttaaaagac ataacaaaac  2400
ataaaatgac tagtaccagg aattgtgacc atggtttgtt ctggtaactg tggcatggca  2460
tggtttgttc caggaattgt ggcatggttt gttcatgttt acattctgat gtcctatttt  2520
ttttttttaa tttctatgtc ctttcctttt ccttggtggt gtcattgttc tgtagctgta  2580
tgaagaaact aaacttttct ccatttcag gaaagcaatc taagaatctt gagtgcctct  2640
tcctttgtta atttctctta agatgtgact tttttaaact actgcatcag gaaatattgt  2700
aaaacagttt tgccttgaat atttgtgatg aaatctacga tgatcttcaa gattctctta  2760
attttgctaa tattcagctg atcagaattt gtttttaaaa tgtctggctg gtgggtactt  2820
cccactgaca actgcttatt gcttacagta tgtctgcctt gtcaatgaat gaggttcagg  2880
gtgcttccta gggatcagag tcagtaccat ttttctcttt catctacagc tgatcagatg  2940
tttattttac ttacattaaa tgaatgatgg agatccaaag tgaatattat agaatattat  3000
tctaggatca acatcttttg ctttgaaaaa tcaacatctc ttggcttttc ctcagccaac  3060
ccagcaaaca gagattatca gactctgttg attttttact ttcatttggc attggccttt  3120
ttcttactga aattaaaaag gctaatgatt tgcctggttt ctgtctctga cctttgcagg  3180
tctatttct taattttag atactatata tctgaaactt tttttaatgt gtcaactttt  3240
taatggatag aaaatagaca cgaatagtga ttatgtgttc attttcaat tttccagaat  3300
aactgaagtg aagtgatgga ctccgatttg gagagtagta agacgtgaaa ggaatacact  3360
tgtgtttaag caccatggcc ttgatgattc actgttgggg agaagaaaca agaaaagtaa  3420
ctggttgtca cctatgagac ccttacgtga ttgttagtta agttttatt caaagcagct  3480
gtaatttagt aatataaata attatgatct atgttgtttg cccaattgag atccagtttt  3540
ttgttgttat ttttaatcaa ttaggggcaa tagtagaatg gacaatttcc aagaatgatg  3600
cctttcaggt cctagggcct ctggcctcta ggtaaccagt ttaaattggt tcagggtgat  3660
aactacttag cactgccctg gtgattaccc agagatatct atgaaaacca gtggcttcca  3720
tcaaaccttt gccaactcag gttcacagca gctttgggca gttatggcag tatggcatta  3780
gctgagaggt gtctgccact tctgggtcaa tggaataata aattaagtac aggcaggaat  3840
```

2978

```
ttggttggga gcatcttgta tgatctccgt atgatgtgat attgatggag atagtggtcc    3900
tcattcttgg gggttgccat tcccacattc cccccttcaac aaacagtgta acaggtcctt    3960
cccagattta gggtactttt attgatggat atgttttcct tttattcaca taaccccttg    4020
aaaccctgtc ttgtcctcct gttacttgct tctgctgtac aagatgtagc acctttttctc   4080
ctctttgaac atggtctagt gacacggtag caccagttgc aggaaggagc cagacttgtt    4140
ctcagagcac tgtgttcaca cttttcagca aaaatagcta tggttgtaac atatgtattc    4200
ccttcctctg atttgaaggc aaaaatctac agtgtttctt cacttctttt ctgatctggg    4260
gcatgaaaaa agcaagattg aaatttgaac tatgagtctc ctgcatggca acaaaatgtg    4320
tgtcaccatc aggccaacag gccagcccctt gaatggggat ttattactgt tgtatctatg    4380
ttgcatgata aacattcatc accttcctcc tgtagtcctg cctcgtactc cccttcccct    4440
atgattgaaa agtaaacaaa acccacattt cctatcctgg ttagaagaaa attaatgttc    4500
tgacagttgt gatcgcctgg agtacttttia gacttttagc attcgttttt tacctgtttg    4560
tggatgtgtg tttgtatgtg catacgtatg agataggcac atgcatcttc tgtatggaca    4620
aaggtggggt acctacagga gagcaaaggt taattttgtg cttttagtaa aaacatttaa    4680
atacaaagtt ctttattggg tggaattata tttgatgcaa atatttgatc acttaaaact    4740
tttaaaactt ctaggtaatt tgccacgctt tttgactgct caccaatacc ctgtaaaaat    4800
acgtaattct tcctgtttgt gtaataagat attcatattt gtagttgcat taataatagt    4860
tatttcttag tccatcagat gttcccgtgt gcctctttta tgccaaattg attgtcatat    4920
ttcatgttgg gaccaagtag tttgcccatg gcaaacctaa atttatgacc tgctgaggcc    4980
tctcagaaaa ctgagcatac tagcaagaca gctcttcttg aaaaaaaaaa tatgtataca    5040
caaatatata cgtatatcta tatatacgta tgtatataca cacatgtata ttcttccttg    5100
attgtgtagc tgtccaaaat aataacatat atagagggag ctgtattcct ttatacaaat    5160
ctgatggctc ctgcagcact ttttccttct gaaaatattt acattttgct aacctagttt    5220
gttactttaa aaatcagttt tgatgaaagg agggaaaagc agatggactt gaaaaagatc    5280
caagctccta ttagaaaagg tatgaaaatc tttatagtaa aattttttat aaactaaagt    5340
tgtacctttt aatatgtagt aaactctcat ttatttgggg ttcgctcttg gatctcatcc    5400
atccattgtg ttctctttaa tgctgcctgc cttttgaggc attcactgcc ctagacaatg    5460
ccaccagaga tagtgggggga aatgccagat gaaaccaact cttgctctca ctagttgtca    5520
gcttctctgg ataagtgacc acagaagcag gagtcctcct gcttgggcat cattgggcca    5580
gttccttctc tttaaatcag atttgtaatg gctcccaaat tccatcacat cacatttaaa    5640
ttgcagacag tgttttgcac atcatgtatc tgttttgtcc cataatatgc tttttactcc    5700
ctgatcccag tttctgctgt tgactcttcc attcagtttt atttattgtg tgttctcaca    5760
gtgacaccat ttgtcctttt ctgcaacaac ctttccagct acttttgcca aattctattt    5820
gtcttctcct tcaaaacatt ctcctttgca gttcctcttc atctgtgtag ctgctctttt    5880
gtctcttaac ttaccattcc tatagtactt tatgcatctc tgcttagttc tattagtttt    5940
ttggccttgc tcttctcctt gatttaaaa ttccttctat agctagagct tttctttctt    6000
tcattctctc ttcctgcagt gttttgcata catcagaagc taggtacata agttaaatga    6060
ttgagagttg gctgtattta gatttatcac ttttttaatag ggtgagcttg agagttttct    6120
ttctttctgt tttttttttt tttttttttg actaatttca catgctctaa aaaccttcaa    6180
aggtgattat ttttctcctg gaaactccag gtccattctg tttaaatccc taagaatgtc    6240
agaattaaaa taacagggct atcccgtaat tggaaatatt tctttttttca ggatgctata    6300
gtcaatttag taagtgacca ccaaattgtt atttgcacta acaaagctca aaacacgata    6360
agtttactcc tccatctcag taataaaaat taagctgtaa tcaaccttct aggtttctct    6420
tgtcttaaaa tgggtattca aaaatgggga tctgtggtgt atgtatggaa acacatactc    6480
cttaatttac ctgttgttgg aaactggaga aatgattgtc gggcaaccgt ttatttttta    6540
ttgtatttta tttggttgag ggattttttt ataaacagtt ttacttgtgt catatttttaa   6600
aattactaac tgccatcacc tgctggggtc ctttgttagg tcattttcag tgactaatag    6660
ggataatcca ggtaactttg aagagatgag cagtgagtga ccaggcagtt tttctgcctt    6720
tagctttgac agttcttaat taagatcatt gaagaccagc tttctcataa atttctcttt    6780
ttgaaaaaaa gaaagcattt gtactaagct cctctgtaag acaacatctt aaatcttaaa    6840
agtgttgtta tcatgactgg tgagagaaga aaacattttg tttttattaa atggagcatt    6900
atttacaaaa agccattgtt gagaattaga tcccacatcg tataaatatc tattaaccat    6960
tctaaataaa gagaactcca gtgttgctat gtgcaagatc ctctcttgga gctttttttgc    7020
atagcaatta aaggtgtgct atttgtcagt agccattttt ttgcagtgat ttgaagacca    7080
aagttgtttt acagctgtgt taccgttaaa ggttttttt tttatatgta ttaaatcaat    7140
ttatcactgt ttaaagcttt gaatatctgc aatctttgcc aaggtacttt tttatttaaa    7200
aaaaaacata actttgtaaa tattaccctg taatattata tatacttaat aaaacatttt    7260
aagctatttt gttgggctat ttctattgct gctacagcag accacaagca catttctgaa    7320
aaatttaatt tattaatgta ttttttaagtt gcttatattc taggtaacaa tgtaaagaat    7380
gatttaaaat attaattatg aattttttga gtataatacc caataagctt ttaattagag    7440
cagagtttta attaaaagtt ttaaatcagt ccaa                                7474
```

<210> 6067
<211> 8389
<212> DNA
<213> Homo sapiens

<400> 6067
```
ccacgccagc taattttttgt attttttggta gagacagggt tgcatcatgt tgcccaggct    60
ggtcttgaat gcctgagctc aagcaatcta tttgccttgg cctcccaaag tgctgggatt   120
acaggcatga gccaccacgg ccagccttct catttgtttt ttttataagg aagctatctc   180
ttcttccctc cccaactagg gtattctttt tccctttcgt cactttgctc atgtactgta   240
ttccttcaac ttcattaatg aatccatttg gaagcagtga aaaaggcaac tcagaaagct   300
aagaagaaat agatagagga atactcagag ctatctgagt attttcttta gtttgttagc   360
tctttggagc tttgaaactg gaaagaccca gggagtgatg tggagaaaga gactgagctt   420
gtaagacaca ggagcagtga gctaagggag atggagtagt ggggacaaat tctggcacat   480
tctgtctaca ctctgggtag atagaggagg gaggatggag cacccatggt gggggtatgt   540
tggtgacagc attttcccac cagccagtgt aacaagtggc tgatttgggg gaaagatggc   600
ataaacaaat gagagaatgt gtttactatt tgatgtagat gggttatttg cttcatttttt   660
caaatcagtg tatataatca agaatattca gcatgtttga atagactgtc agagctggaa   720
ctctttcatt aacatctctg gcacctttag ttttagccct gaacatttta tcttaaaatt   780
aaacattacc aaatgcctta gtttatttca tttattaaat ttatattctt atttgttatt   840
tatatcagct tccaatcaga agactataca acctcctagg gtaagttaaa gtttattaaa   900
tgaattgtga atgatcattt gagggattag actgaggaac ttggtaattg agatatttttg   960
ctatctgttt tgtctcacgt caaattaaga gaatgttgaa gtcattgcat gacctttgca  1020
tgaatgggtc cagttctatt ttaaaacctg tgtttggtca ttttagtgtc aatgggatgg  1080
aataaatgat ttcttaagat tgtactgact tctcacaccc aaaactggaa agtaggaata  1140
atggctatat tatctctgca atcagaagga agctgattcc aatatatcac ctcacctgtt  1200
ggattcattg gatgtgcata cacagaatga caatttcagg cttaaaaatg aggagaaatc  1260
tatactaagt tgacatcact gataattata atctataaaa taaatgtaaa tattgctgaa  1320
aacatctgtt cggagttatg attcgatcct ctcccataca aatgttttat aaacatattt  1380
tcccttaaaa ctgtgcttaa ggtttcattg taccttagat accttattaa gcctctgagg  1440
aaattgcaag aaaaggagta atttttaggag ggcataaata aaaagaaaag catatttata  1500
aacatagact ttccacagtg gcaaggccca agaggtatgt tgtggacata agctctggaa  1560
aggattatat tgtacttagc ttcctatgac ggagtgatga tagatgtatc tggaatgcca  1620
aagagagtct tctgtctgtg gccggaggta gaggtcacat atgcttctaa gtctgacaag  1680
cctcattgtg cctaaagggc aggtgggggcg ggtatgtgtg tctaccacag gggtatattc  1740
tagaaagatt ggtgccatag ctatgttggt cacaagaggc cagcaactta actggacctg  1800
tgaatcctaa cacatttttct ttcccagtta ctgagttcaa tttgcgatac ttaaagatga  1860
ttctgttttg cttccacctc ttcactgtgt tatttattct gttgttgcta tttatgcttg  1920
cactttcata tttttagaag ttagaatttc ttgagctgag agtggtgaag tgggaaattc  1980
tgtttagaaa aataatatta agagaataat acagttatta ttaaactatt aacccgactt  2040
ggcaagcttt gctttaacat ttacaggctt atttcgttgt tttgttttttt cttttttttt  2100
tgactgtagg atttactgct tactacgtaa tttaaatatt agcatatata agttttacta  2160
taaaatgaca tgacataaat tatatttttta tggaaatata ttttaaatat ttttcataat  2220
gctggagagg aaccccttaa tggcatgtgg atatttcact cttaatcctt taccagatca  2280
taatttgatc tggcccgcaa aacagttaga atgccctgtc tatgccttag gaagaatcta  2340
ggtttttttc ctcttttttt ctttccttgg catctctact cttgattatt catcaagaat  2400
tatgggctgg gtgcggtggc tcacgcttgc gatcccggca ccttgggagg ccaaggcggg  2460
cagatcacga ggtcaagaga ttgagaccat cctggccaac atgttgaaac cctgtctcta  2520
ctgaaaatac aaaaattacc tgggcatggt ggtgtgtatc tgcagtccca gctactcggg  2580
aggctgaggc aggagaattg cttgaacccg gaaggcagat gttgcagtga gttgagatca  2640
tgccaccgca ctccagcctg gtgacagagt gagactctgt ctcaaaaaaa ataaaaaaga  2700
attatgaata ttactttttat aatattctca ccactggaa aaatgcacta ttctgtgtct  2760
aagtagctgc ttaccttaac caagtgatat ttgggcaagg ggatcgttgc cttttgctac  2820
tggttgagac gaagcatggc accccctagt agagaaggat cccaattact tccaatttgt  2880
gatgtacaca ttttagaaag atacaggcta ttgccacaga gatagaccaa aacatctcat  2940
tttctttctt tgtaaaccta gatctgattt cccaactaag tctgtttcct ttgtgaatgc  3000
tgtgggtatg atccacagaa aggctacata atgaaatgat agctttacaa ttaatttggc  3060
tgtagagttg tagactagtt agcatatcat tgcatatttg tttatttaga aatgatttcc  3120
aattgtggaa cctcactaac tgcctgcttg gcttgttact aatcctagca ttcaaagaat  3180
```

```
caaaaggaat gatgaatgat ggtaagtata aaatgcactt aataattata gatcagttaa    3240
aacatggaca ttggaaaaca aaaaagcttc ttgaaaatgt ggctcttttt tagtaaaagg    3300
gacactgtca gatgataaag gttcacattt cttgatgtat acaacttaaa tctactttgc    3360
taaaaattgc aaaactacta ctgtaaaaac tgtagggtgt cacgaatcag actccagtca    3420
tatggctccc agcaaagaga aattaccact ttttgtaaaa tgttttcag attccgtgtc    3480
tggtgactgt aactttaaga tgccttttat aaggcacata aataatctgg cacaaatctt    3540
tatcattttg acagagtttc ttttatgctt gtgttggtga ttttgttgca tttaacccat    3600
ggggacttaa catctctgct tttccaatca ggagcttggt tctaaccttt tgggagatga    3660
ttaaagagag aggttgagag agagagagag agagagagag agagagagag agagagagag    3720
agagatgttt cgtcctcagc ttttgcttcc attttttttt taagaactct gggctaataa    3780
cttctaatct ttatagaata tttcaaagaa atatatttgt tcttaaagat acataggttt    3840
gagatattga gtgctacaag catttatttt ggttttacct taacatatta tgattcctca    3900
gttttgttgg catttagtaa ttatgtttat gtttttatct tatcaaaaaa tgtcttctta    3960
cctttgatat ttataatcac tcctcggtca tgtaaatagt ttgctttata ttttactgtt    4020
ttaaagtctg tgaccttacc tgccctcttc tgtagcaaag tgcagcattt aactcaggaa    4080
gctatattcc ccccaagtgt cattaatatt tgcataagat taaaaacact ccagtcggcc    4140
gggcgcggtg gctcacgcct gtaatcccag cactttggga ggccgaggcg gcggatcac    4200
aaggtcagga gatcgagacc atcctggcta acacggtgaa accccgtctc tactaaaact    4260
acaaaaaatt agccgggcat ggtggcgggc acctgtggtc ccagctactt gggaggctga    4320
ggcaggagaa tggcgtgaac ccgggaggca gagcttgcag tgagccaaga tcgtgccact    4380
acactccagc ctgggtgaca gagcaagact ccgtctcaag aaaaaaaaaa aaaaaaaaaa    4440
aaaaaaacca ctccagtcat gcattggtga acaaagttta aacaacgtg tattcagcat    4500
ggagtcacag aatgatccta cttttgtatg tttgtgtcac agcctttaaa agcatgtctt    4560
gttatataag ccattaccct cctaaaaaag actatagttc acaggaataa gttaaaagac    4620
ataacaaaac ataaaatgac tagtaccagg aattgtgacc atggtttgtt ctggtaactg    4680
tggcatggca tggtttgttc caggaattgt ggcatggttt gttcatgttt acattctgat    4740
gtcctatttt tttttttaa tttctatgtc ctttcctttt ccttggtggt gtcattgttc    4800
tgtagctgta tgaagaaact aaactttct ccattttcag gaaagcaatc taagaatctt    4860
gagtgcctct tcctttgtta atttctctta agatgtgact tttttaaact actgcatcag    4920
gaaatattgt aaaacagttt tgccttgaat atttgtgatg aaatctacga tgatcttcaa    4980
gattctctta attttgctaa tattcagctg atcagaattt gttttaaaa tgtctggctg    5040
gtgggtactt cccactgaca actgcttatt gcttacagta tgtctgcctt gtcaatgaat    5100
gaggttcagg gtgcttccta gggatcagag tcagtaccat ttttctcttt catctacagc    5160
tgatcagatg tttatttтac ttacattaaa tgaatgatgg agatccaaag tgaatattat    5220
agaatattat tctaggatca acatctttTg ctttgaaaaa tcaacatctc ttggcttttc    5280
ctcagccaac ccagcaaaca gagattatca gactctgttg atttttact ttcatttggc    5340
attggccttt ttcttactga aattaaaaag ggctaatgat ttgcctggtt tctgtctctg    5400
acctttgcag gtctattttc ttaatttтta gatactatat atctgaaact ttttttaatg    5460
tgtcaacttt ttaatggata gaaaatagac acgaatagtg attatgtgtt catttтtcaa    5520
ttttccagaa taactgaagt gaagtgatgg actccgattt ggagagtagt aagacgtgaa    5580
aggaatacac ttgtgtttaa gcaccatggc cttgatgatt cactgttggg gagaagaaac    5640
aagaaaagta actggttgtc acctatgaga cccttacgtg attgttagtt aagttttat    5700
tcaaagcagc tgtaatttag ttaataaaat aattatgatc tatgttgttt gcccaattga    5760
gatccagttt tttgttgtta tttттaatca attaggggca atagtagaat ggacaatttc    5820
caagaatgat gcctttcagg tcctagggcc tctggcctct aggtaaccag tttaaattgg    5880
ttcagggtga taactactta gcactgccct ggtgattacc cagagatatc tatgaaaacc    5940
agtggcttcc atcaaacctt tgccaactca ggttcacagc agctttgggc agttatggca    6000
gtatggcatt agctgagagg tgtctgccac ttctgggtca atggaataat aaattaagta    6060
caggcaggaa tttggttggg agcatcttgt atgatctccg tatgatgtga tattgatgga    6120
gatagtggtc ctcattcttg ggggttgcca ttcccacatt cccccttcaa caaacagtgt    6180
aacaggtcct tcccagattt agggtacttt tattgatgga tatgttttcc ttttattcac    6240
ataacccctt gaaaccctgt cttgtcctcc tgttacttgc ttctgctgta caagatgtag    6300
cacctttTct cctctttgaa catggtctag tgacacggta gcaccagttg caggaaggag    6360
ccagacttgt tctcagagca ctgtgttcac acttttcagc aaaaatagct atggttgtaa    6420
catatgtatt cccttcctct gatttgaagg caaaaatcta cagtgtttct tcacttcttt    6480
tctgatctgg ggcatgaaaa aagcaagatt gaaatttgaa ctatgagtct cctgcatggc    6540
aacaaaatgt gtgtcaccat caggccaaca ggccagccct tgaatgggga tttattactg    6600
ttgtatctat gttgcatgat aaacattcat caccتcctc ctgtagtcct gcctcgtact    6660
cccctteccc tatgattgaa aagtaaacaa aacccacatt tcctatcctg gttagaagaa    6720
aattaatgtt ctgacagttg tgatcgcctg gagtactttt agactтttag cattcgtttt    6780
ttacctgttt gtggatgtgt gtttgtatgt gcatacgtat gagataggca catgcatctt    6840
```

2981

```
ctgtatggac aaaggtgggg tacctacagg agagcaaagg ttaattttgt gctttttagta    6900
aaaacattta aatacaaagt tctttattgg gtggaattat atttgatgca aatatttgat    6960
cacttaaaac ttttaaaact tctaggtaat ttgccacgct ttttgactgc tcaccaatac    7020
cctgtaaaaa tacgtaattc ttcctgtttg tgtaataaga tattcatatt tgtagttgca    7080
ttaataatag ttatttctta gtccatcaga tgttcccgtg tgcctctttt atgccaaatt    7140
gattgtcata tttcatgttg ggaccaagta gtttgcccat ggcaaaccta aatttatgac    7200
ctgctgaggc ctctcagaaa actgagcata ctagcaagac agctcttctt gaaaaaaaaa    7260
atatgtatac acaaatatat acgtatatct atatatacgt atgtatatac acacatgtat    7320
attcttcctt gattgtgtag ctgtccaaaa taataacata tatagaggga gctgtattcc    7380
tttatacaaa tctgatggct cctgcagcac ttttttccttc tgaaaatatt tacattttgc    7440
taacctagtt tgttacttta aaatcagttt tgatgaaagg agggaaaagc agatggactt    7500
gaaaaagatc caagctccta ttagaaaagg tatgaaaatc tttatagaaa aatttttta    7560
taaaactaaa agttgtaccc ttttaatatg gtagtaaaac tcctcattta tttgggggtc    7620
gctctttgga tctcatccat ccaatgtgtt ctctttaatg ctgcctggcc ttttgaggca    7680
ttcactgccc tagacaatgc cacccagaga tagtgggga aatgccagat gaaaccaact    7740
cttgctctca ctagttgtca gcttctctgg ataagtgacc acagaagcag gagtcctcct    7800
gcttgggcat cattgggcca gttccttctc tttaaatcag atttgtaatg ctcccaaat    7860
tccatcacat cacatttaaa ttgcagacag tgttttgcac atcatgtatc tgtttttgtcc    7920
cataatatgc tttttactcc ctgatcccag tttctgctgt tgactcttcc attcagtttt    7980
atttattgtg tgttctcaca gtgacaccat ttgtcctttt ctgcaacaac ctttccagct    8040
acttttgcca aattctattt gtcttctcct tcaaaacatt ctcctttgca gttcctcttc    8100
atctgtgtag ctgctctttt gtctcttaac ttaccattcc tatagtactt tatgcatctc    8160
tgcttagttc tattagtttt ttggccttgc tcttctcctt gattttaaaa ttccttctat    8220
agctagagct tttctttctt tcattctctc ttcctgcagt gttttgcata catcagaagc    8280
taggtacata agttaaatga ttgagagttg gctgtattta gatttatcac tttttaatag    8340
ggtgagcttg agagttttct ttctttctgt gttttttttt ttggttttt              8389
```

<210> 6068
<211> 225
<212> DNA
<213> Homo sapiens

<400> 6068
```
attaccctcc taaaaaagac tatagttcac aggaataagt taaaagacat aacaaaacat     60
aaaatgacta gtaccaggaa ttgtgaccat ggtttgttct ggtaactgtg gcatggcatg    120
gtttgttcca ggaattgtgg catggtttgt tcatgtttac attctgatgt cctatttttt    180
tttttaatt tctatgtcct ttccttttcc ttggtggtgt cattg                     225
```

<210> 6069
<211> 703
<212> DNA
<213> Homo sapiens

<400> 6069
```
agaggttggc ttcttgtttg gatacaagga ccaagtcact cccccaggtt cctccacagt     60
aagggaggcc tatttaaagc cgcccatggc actaacagaa actggactcc tatgagctca    120
gatacataac tgggcctcac aggggtggga cagtatgtag tctaggaatt ggaaggatcc    180
attccatatc aaagaactga agcatcgtgt tgccctctca gcagcaagag taaggtgatg    240
cccctgtcag ttatagttcc tgagttcctc tgtctttgat tctttgccta ttagccagct    300
agctcaccct cttgtttatg ccactgtttt ttatcctatt catgccttct cacagacaac    360
ttttcttacc tacagctttg gactcatcct tgtctccttt ctgtttcttt ttcactttcc    420
cttcccatca ccaactttct gggtttttttt ctgtttcttc ttagagtcca gtggcaggga    480
gaaacttgtc agtccagtct gttgccattt ttcctgtttg agaaagactc accagctttt    540
ggctggctca cagattggct ttccttgggt caggacccac ccttttccct gccagctttg    600
gaagcttgac agaattcgag tgtgcagtgg tggtaaataa atagtaagga acacagagca    660
gtcctggagg cgtgcctcca tctgctgatg agaaaatcca gtg                      703
```

<210> 6070
```

<400> 6070

```
ctttcatctt ttatgttcaa agtacttgat gcacaaagcc tggactcttt tatctctgtc    60
ctatagactg atgtctagtc agtattcatt gtgacaaaat tgtttcatta gagcaagttg   120
gatagtgtat ggagattatt ataaaatgat ttaacttgtc ttctgtcaag taattttata   180
attggtatta atgttcattt ttttccaggt accagtttca gaagctttca tttgtgtatg   240
catgtgtgtg ttaaataagt gtattagata cttgaaaaat agtaatttaa atttaaacaa   300
tttaaaaaat gaaattgtaa ttttatgtgt aaaggtgtct gatgtgcttt attctgcact   360
gaaaacaata ttcatttaca gctcaacaga caccaaatat attctaaaat tactttccta   420
gagttatcag aaaacagcac tgtaataatg aaatcaaacc catctttctt tatgatttat   480
tcttagtctg atacgcatca gcctggtaag ccttcctgtc tctctgctta cttaccaatc   540
actccaaatg tcatgtcttt gggcaggcat taaattcttg ggttttgggt tttgttggat   600
ggactgcagt ctgtgtgagc ctatatgggt gtgtcaaatc cagtctttgg ggtgtcatgg   660
aaacttagca tgatagactt gattttatcc ccaagttgac ttggtaattt cattagattt   720
catcagtcac aacctgcatt ttatcttgta tgtgctgtct attggtcaca aaatcagaaa   780
accttcttgt ccattcataa cattagctgt tttttcaggt ggctagaggg acatgtcatt   840
gcttcatctg catgaatttg aaagattaaa tgcataaagg aattttctta gagtagagta   900
ggccttcacc atctctttaa ctgggaaaga agttttggga gtaacatact catcactcac   960
accccctcc cctcaaacac acacactcac ccattagaat gtaagggcct tgaggcaggc   1020
cttgtgtttg cttttcgtgt tcactgtcag catttagaat agtgatagtc atatagatgg  1080
atagtgctca atcaattatt gtcaaataaa gtaatctact tgttccttga tttagactag  1140
caaaaggggc tggtacattg taggtacaca gtaaatattt gtagaacaga tgaatgaacc  1200
aacccaacag atttcttaga agtagcctgc ttttggttac taattatttt atagaacata  1260
taaaagaaaa ttttagaata cctaatttgt tcacaaaaat gttatattgt ctcccctgat  1320
acttggtatt cctgtgtcag gctgagcact aaggttatac atttttgtt aagcatgtaa  1380
ttactgttat ttctcatgta ctttattttg tgtattgatt tcagtagttg tagctgaggg  1440
taatccttaa gagcatgcag attttaaaaa ttacatagat tgccttgcca agccgtctga  1500
aagtcatact agaaaatttg ataagagcct gctgttaaca acacattgag ttatttttat  1560
cttaatgcta agtggagaat tacttgaatt tatttttttt gctgcattta atgttttgat  1620
acattcaata aataaggata aatccactta ctgaaggaca agaaaagatc aataagagat  1680
ccttgaggtt attgggttct atggcatcta ttatatcaaa ttccttgccc tttcactata  1740
ctgagaaatt tgacgactgg gctagcaaca agatacctac cccacattag ctgtggtacc  1800
tgctgaaatg tgaccatgtg agcaaagaaa atgagccaaa agaaactctt tctgaagatt  1860
cactgaagaa aacctggaga tactctttca ttagtagacc ccacagagac aggtggagtg  1920
tccgttatcc agaatgcctg ggaccagaag tgttttggat ttcagatttt ttcacacttg  1980
ggatcctcaa catgtgtatt tgttggaaat ggctacttaa tttaaggaaa agtttaaggt  2040
ggcctggaaa ataagtagta gttgaactaa tcaacaggaa ccaaaactac tttcaatata  2100
tagtgtactt atactcaaag agagacggac cattttatgg tggaaccctg tctatggtag  2160
tattttgtga tgtttttattt ttgttgctat tgtttgcact gttttctcct ataacagctc  2220
ttctaagcct taagaggata aattttatat gagattcaaa ctcttatttt tgttaagaag  2280
gatgtaagtc accaggcatg gtggctcaca cctgtaatcc cagcactttg ggaggccgtg  2340
gcaggtggat catgaggtaa ggagctcgag atcagcctgg ccaacaatgt gaaaccccgt  2400
ctctactaaa aaaaaaaaaa aaagaattca aaaattagcc aggcctggtg gcgcatgcct  2460
gtagtcccag ctactcggga ggctgaggca ggagaatcat tgaacctggg aggcagagtt  2520
tgcagtgagc cgagattgtg ccactgcact ccagcctggg taacggagtg agagactctg  2580
tctccaaaaa aaaaaaaaaa gaaaagaaaa                                   2610
```

<400> 6071

```
gtaaatattg ctgaaaacat ctgttcggag ttatgattcg atcctctccc atacaaatgt    60
tttataaaca tttttttccct taaaactgtg cttaaggttt cattgtacct tagatacctt   120
attaagccat ctgaggaaat tgcaagaaag gagtaatttt aggagggcat aaatgaagag   180
aaaagcatat ttataaacat agacttatca cagtgacagg cccaagaggt atgttgtgga   240
```

2983

```
cataagctct ggaaaggatt atattgtact tagcttccta taacggagtg atgatagatg      300
tatctggaat gccaaagaga gtcttctgtc tgtggccgga ggtagaggtc acatatgctt      360
ctaagtctga caagcctcat tgtgcctaaa gggcaggtgg ggcgggtatg tgtgtctacc      420
acaggggtat attctagaaa gattggtgcc atagctatgt tggtcacaag aggccagcaa      480
cttaactgga cctgtgaatc ctaacacatt ttctttccca gttactgagt tcaatttgcg      540
atacttaaag atgattctgt tttgcttcca cctcttcact gtgttatta  ttctgttgtt      600
gctatttatg cttgcacttt catattttta gaagttagaa tttcttgagc tgagagtggt      660
gaagtgggaa attctgttta gaaaaataat attaag                                696


<210> 6072
<211> 703
<212> DNA
<213> Homo sapiens

<400> 6072
agaggttggc ttcttgtttg gatacaagga ccaagtcact cccccaggtt cctccacagt       60
aagggaggcc tatttaaagc cgcccatggc actaacagaa actggactcc tatgagctca      120
gatacataac tgggcctcac aggggtggga cagtatgtag tctaggaatt ggaaggatcc      180
attccatatc aaagaactga agcatcgtgt tgccctctca gcagcaagag taaggtgatg      240
cccctgtcag ttatagttcc tgagttcctc tgtctttgat tctttgccta ttagccagct      300
agctcaccct cttgtttatg ccactgtttt ttatcctatt catgccttct cacagacaac      360
ttttcttacc tacagctttg gactcatcct tgtctccttt ctgtttcttt ttcactttcc      420
cttcccatca ccaactttct gggttttttt ctgtttcttc ttagagtcca gtggcaggga      480
gaaacttgtc agtccagtct gttgccattt ttcctgtttg agaaagactc accagctttt      540
ggctggctca cagattggct ttccttgggt caggacccac cctttttccct gccagctttg      600
gaagcttgac agaattcgag tgtgcagtgg tggtaaataa atagtaagga acacagagca      660
gtcctggagg cgtgcctcca tctgctgatg agaaaatcca gtg                        703


<210> 6073
<211> 494
<212> DNA
<213> Homo sapiens

<400> 6073
ctgcacccag ccgaactatg tcttctaatt cttttttag gaccttaaac attgtttact        60
tgattaaaat ttaaatttta tattacattt gtaataaaac tagaaagcat agataagcta      120
tcaatcaaaa tcacccaaat cctgtgacta ctactcactg caaacatttt aatgtgcaat      180
ttgtacttaa ttctttactt tgtaatacat acaaatatgt ccagacactg tgacatatgc      240
ttgtgaactt ttcaaaggtg atatcctgct gtgtattata ttctgttctt ttcatgtggc      300
acattacaaa tgccctgtaa tacagataat tatcaaatac ttcttagcat tcttttatgt      360
ataaatgtac catagtagta aatttcttcc ttcacattga gactttttt aaaactataa      420
acagtactct gaattgctat aaaatatgtt ctatatcaat tcattcaaat aaatatatag      480
aagttgaatt tctg                                                        494


<210> 6074
<211> 494
<212> DNA
<213> Homo sapiens

<400> 6074
ctgcacccag ccgaactatg tcttctaatt cttttttag gaccttaaac attgtttact        60
tgattaaaat ttaaatttta tattacattt gtaataaaac tagaaagcat agataagcta      120
tcaatcaaaa tcacccaaat cctgtgacta ctactcactg caaacatttt aatgtgcaat      180
ttgtacttaa ttctttactt tgtaatacat acaaatatgt ccagacactg tgacatatgc      240
ttgtgaactt ttcaaaggtg atatcctgct gtgtattata ttctgttctt ttcatgtggc      300
acattacaaa tgccctgtaa tacagataat tatcaaatac ttcttagcat tcttttatgt      360
ataaatgtac catagtagta aatttcttcc ttcacattga gactttttt aaaactataa      420
acagtactct gaattgctat aaaatatgtt ctatatcaat tcattcaaat aaatatatag      480
```

aagttgaatt tctg   494

<210> 6075
<211> 879
<212> DNA
<213> Homo sapiens

<400> 6075
gcccagctaa tttttgtatc tttagtagag acggggtttc accatgttgg ccaggctggt   60
cttgaactcc tgacttaggt catctgccca ccttggcctc ccaaagtgct gggattatgg   120
tcatgagcca ccatgcccag cctgcatacc ttttttttat tgttgccttt tgtttttatg   180
cctgtagctt ttacattaca ttaaacagtt tttgaaaatt gtcagactgt taataacatt   240
agttttatct tgtttgaaaa ttatttagta aggagaaaga aaaatacaaa ttcatgtttt   300
aattgatagt tgtacgagcc tcatagcaat atttccatgt gctatattca gttattgctt   360
aaacaatttt gtaattaaca cttatatgtc aggatctgtt ttctcaagta aacttcggtt   420
tttccaccaa aatggtgtgg gttttttttt ttttaatata ttgtaatctg aatttcctac   480
tactgccggg tcattggaga aacagtaaat taaacctgaa gaactccgga ataacttaac   540
ttcttcgttt aaaaatgctt gaaaataaag ttgcaggcca ggtgcagggg ctcacgcttg   600
taatcccagc actttgggag gccgaggtgg gcagatcact tcaggccagg agtttaagac   660
cagcctggct aatatagcaa aagtccgtct ctactaaaaa tagaaaaaaa ttagctgagc   720
gtggtggcgc acacctaatc acagctaata aagagtctga gactcaagaa ttgcttgaac   780
ccagaaggca gaggttgcat gcagtgagcc gagattgtac cactgcactc cacacttcgc   840
gacagagcca gattctgtct caaaaaaaat taaaataaa   879

<210> 6076
<211> 879
<212> DNA
<213> Homo sapiens

<400> 6076
gcccagctaa tttttgtatc tttagtagag acggggtttc accatgttgg ccaggctggt   60
cttgaactcc tgacttaggt catctgccca ccttggcctc ccaaagtgct gggattatgg   120
tcatgagcca ccatgcccag cctgcatacc ttttttttat tgttgccttt tgtttttatg   180
cctgtagctt ttacattaca ttaaacagtt tttgaaaatt gtcagactgt taataacatt   240
agttttatct tgtttgaaaa ttatttagta aggagaaaga aaaatacaaa ttcatgtttt   300
aattgatagt tgtacgagcc tcatagcaat atttccatgt gctatattca gttattgctt   360
aaacaatttt gtaattaaca cttatatgtc aggatctgtt ttctcaagta aacttcggtt   420
tttccaccaa aatggtgtgg gttttttttt ttttaatata ttgtaatctg tatttcctac   480
tactgccgtg tcattggaga aacagtaaat taaacctgaa gaactcctga ataacttaac   540
ttcttcgttt agaaatgctt gaaaatagag ttgcaggcca ggtgcagtgg ctcacgcttg   600
taatcccagc actttgggag gccgaggtgg gcagatcact tcaggccagg agtttaagac   660
cagcctggct aatatagcaa aagtccgtct ctactaaaaa tagaaaaaaa ttagctgagc   720
gtggtggcgc acacctaatc acagctaata aagagtctga gacacaagaa ttgcttgaac   780
ccaggaggca gaggttgcat gcagtgagcc gagattgtac cactgcactc cacacttcgc   840
gacagagcca gattctgtct caaaaaaaat taaaataaa   879

<210> 6077
<211> 336
<212> DNA
<213> Homo sapiens

<400> 6077
gcagaagaag cattagcaaa gaggagggga agaaacagcc cgaatggaaa cctcattagg   60
atgctggttc ttttctttct tgaaagtgag gtaaaaaatg ttttaagata attccttatt   120
tcttttatta tattacattt taaatgtcaa ttcattttaa ttttttcaa tcaaataaaa   180
acaagtctgt ttcttataaa gttaccttca tgaattgcat gatatagaat cagtcctta   240
cctttgtgg aaaggtgttc tgaatatata tgtaggtgtg gatcaacact gaatacagac   300
tggcaattgt taaactttta cagtattgca atactg   336

<210> 6078
<211> 1133
<212> DNA
<213> Homo sapiens

<400> 6078
```
tttttttttt tttagcaatt tcagtgtaat gaaagaattt aagctttgaa tttataattt    60
gctgtggtgg ggttaatttc tgtcagtatt tgagattgta ttatcagtct tgcataatga   120
aatccttttt tggctaagta tttaattcga acatatttgc cttttaaaa agtgcttggc    180
ctaaacttat tgtaactgca tgaaataagc atttgcttaa aacttaacat tgtaaaattg   240
ttctctctga aatgtgtgca gaatttaaat catggccaaa tgtattacta ttaccctatt   300
tacagtaatt tgctttgcag aaaatatttc ttcatcatgg aactgtgaaa tcaaattgaa   360
gatcttactg gtaaaaatga caaattaaca aaaggactaa gacaagtggt gcccaaacaa   420
cctttttatt ctgcagttcc atcatcataa tagaccagtt aacccaggag tcctaatgtt   480
ttaaaacatc attgtggtga tcttgtttat tctatctcac taaggatatc cagtttccta   540
agctcttact ggctagcaat ttcgtcttaa ttttattgct aaatgttcaa attttgcttc   600
caaactcact ttattttgc agatgtgtac atctgctaaa tactaatttt atgtaaatga    660
ttttgttgat tatctttcca catcttaaaa tgtttctaac agctttgaga ttttatctca   720
acaggctctc tctgacccca aagtagtact taccttcgtg actactgaca aagtcacaaa   780
atgcaggcga tgtcatgtat ttcggtacaa ctaaatctag gaaacggttt tttcattgca   840
ttactgcata ttttcatttt catttaaatt atgtcccctt tttctcttgc ttgaaacagt   900
gctcctcgaa ctttgtcttc cagcacattt taaagagaac caattaaaga acaatcacac   960
attctgctta ttaaaggcta tttaaaaaga aacattttgt attagaaaat ggccaacttt   1020
aaaacactat tttttacact cataaaaatg ttttttaaat cgccttgaca atcatcagct   1080
tttgaaatgt gaattcctat tgccagagta aaggtctcgt ttttataccacca           1133
```

<210> 6079
<211> 1247
<212> DNA
<213> Homo sapiens

<400> 6079
```
attttacact taatttataa tatttattga gtatattatg tcctcaacaa gtaactataa    60
aatgaaatac ttaactcggt gaagactatt ttatgcaaag tttttttttt tttttttttt   120
tttttttagc aatttcagtg taatgaaaga atttaagctt tgaatttata atttgctgtg   180
gtggggttaa tttctgtcag tatttgagat tgtattatca gtcttgcata atgaaatcct   240
tttttggcta agtatttaat tcgaacatat ttgcctttt aaaaagtgct tggcctaaac    300
ttattgtaac tgcatgaaat aagcatttgc ttaaaactta acattgtaaa attgttctct   360
ctgaaatgtg tgcagaattt aaatcatggc caaatgtatt actattaccc tatttacagt   420
aatttgcttt gcagaaaata tttcttcatc atggaactgt gaaatcaaat tgaagatctt   480
actggtaaaa atgacaaatt aacaaaagga ctaagacaag tggtgcccaa acaacctttt   540
tattctgcag ttccatcatc ataatagacc agttaaccca ggagtcctaa tgtttttaaaa   600
catcattgtg gtgatcttgt ttattctatc tcactaagga tatccagttt cctaagctct   660
tactggctag caatttcgtc ttaattttat tgctaaatgt tcaaattttg cttccaaact   720
cactttattt ttgcagatgt gtacatctgc taagtactaa ttttatgtaa atgattttgt   780
tgattatctt tccacatctt aaaatgtttc taacagcttt gagatttat ctcaacaggc    840
tctctctgac cccaaagtag tacttacctt cgtgactact gacaaagtca caaatgcag    900
gcgatgtcat gtatttcggt acaactaaat ctaggaaacg gttttttcat tgcattactg   960
catattttca ttttcattta aattatgtcc cctttttctc ttgcttgaaa cagtgctcct   1020
cgaactttgt cttccagcac attttaaaga gaaccaatta agaacaatc acacattctg    1080
cttattaaag gctatttaaa aagaaacatt ttgtattaga aaatggccaa ctttaaaaca   1140
ctattttta cactcataaa aatgtttttt aaatcgcctt gacaatcatc agctttttgaa   1200
atgtgaattc ctattgccag agtaaaggtc tcgtttttat accacca                 1247
```

<210> 6080
<211> 1708
<212> DNA

<400> 6080
```
cttattgccc gcgcggtgag ggagcgtggt ctcgcgcaag ccggcgtgcg gtccggcggc   60
gctgcagttg tgtccagccg gtcacggggc ggctatggcg gccacgttct tcggagaggt  120
ggtgaaggcg ccgtgccgag ctgggactga ggacgaagag gaggaggagg aggggcggag  180
ggagacgccc gaggacaggg aggtgcgtct gcagctggcg cggaagaggt gaggcaccgg  240
gataacggca gcgcgctcac cgcagctgga aggtgcgcgg gcctggcagc cgcgacggcg  300
cctaaggccg gggctccgcg gtcttccgag tggccccgc ggttgccgcc gctccttggc  360
tctgcttggg ccctgggtct ccgtgaagcc gcggcgtcca gcggcgccag ccccaggtgt  420
gtgtggttct cgcgtggatc tgctggcgtt tcgtggagtc cagggtgaag ccgctgtggg  480
agggctgggt tcaaatccgt tctttaaagg ctttctggag cgtttctgga gcatttctgg  540
aggcttggtg tcttgcggac tcgtgatctt cccgcttgtc acactgtctt gggccgcagc  600
gctcccgcgg gccccaccac gtttgtcgtg gattgttcac ggacacacca attccctcga  660
aactttttaa acctgcaccc aacacttcaa ttagcatgat gtgtcagtag ccaatgaaca  720
cgctttaaaa aaattgtttc caaacacaaa aaagtgggag aaaatagtca agtgagccct  780
gaccctaca caaccgggta aattcaacag gaagattttg ccacgtttat tttctctccc  840
gccactccta agcgaattcc agtcatcatg gcctttcacc tctacatttt tcagaataca  900
tctcaaacgt tttagggatt ttcttacata tgctattatc accctaaca acactaatac  960
taattttcca gtatcatttt gtagtccatg ctcactcacg tttacctagt tttttcaaac 1020
atgacatttt acagtggtct gcgtgaatga gaatcctaac agggtccaca ggttacattt 1080
agacgtgtca cttcatttag agcaacctcc tcttacccct cctaagagac aggactgatt 1140
gtcttgtcca gtgcccccac actctgaatt tgtctgatag cttcgttgtg gtgtcactta 1200
acgtttgtat cacctgcatg tcctgtaaaa tgaatgttca tttggaggct tggtcagatt 1260
ctcattcaaa gttttgtcgg caagaatgct tctactaagt ggtgctttct gtttcttatt 1320
gcaggctatc cccagctgtc tcacttttag ggatgctaag attggttctt gggtcaggtg 1380
gacagcctga tcactatttt agagttctcc gtaaacacgt atgcagtagt tttatctgtt 1440
ggttatcatt gtccgagtcc atcgttttct gaggatatta gttatattct ttataaaact 1500
aacgtgcatt ttatttattg taaatcatac atatagtgcc cttttgccat gatactgttt 1560
gtattgaagt tgctttagtt tcatcttgtt tcttgtgtta gggaagtgcg gctccttcga 1620
agacaaacaa aaacatcttt ggaagtttct ttgctagaaa aatatccgtg ctccaagttt 1680
ataattgcta taggaaataa tgcagtag                                    1708
```

<400> 6081
```
cttattgccc gcgcggtgag ggagcgtggt ctcgcgcaag ccggcgtgcg gtcccgcggc   60
gctgcagttg tgtccagccg gtcacggggc ggctatggcg gccacgttct tcggagaggt  120
ggtgaaggcg ccgtgccgag ctgggactga ggacgaagag gaggaggagg aggggcggag  180
ggagacgccc gaggacaggg aggtgcgtct gcagctggcg cggaagaggt gaggcaccgg  240
gataagggca gcgcgctcac cgcagctgga aggtgcgcgg gcctggcagc cgcgacggcg  300
cctaaggccg gggctccgcg gtcttccgag tggccccgc ggttgccgcc gctccttggc  360
tctgcttggg ccctgggtct ccgtgaagcc gcggcgtcca gcggcgccag ccccaggtgt  420
gtgtggttct cgcgtggatc tgctggcgtt tcgtggagtc cagggtgaag ccgctgtggg  480
agggctgggt tcaaatccgt tctttaaagg ctttctggag cgtttctgga gcatttctgg  540
aggcttggtg tcttgcggac tcgtgatctt cccgcttgtc acactgtctt gggccgcagc  600
gctcccgcgg gccccaccac gtttgtcgtg gattgttcac ggacacacca attccctcga  660
aactttttaa acctgcaccc aacacttcaa ttagcatgat gtgtcagtag ccgatgaaca  720
cgctttaaaa aaattgtttc caaacacaaa aaagtgggag aaaatagtca agtgagccct  780
gaccctaca caaccgggta aattcaacag gaagattttg ccacgtttat tttctctccc  840
gccactccta agcgaattcc agtcatcatg gcctttcacc tctacatttt tcagaataca  900
tctcaaacgt tttagggatt ttcttacata tgctattatc accctaaca acactaatac  960
taattttcca gtatcatttt gtagtccatg ctcactcacg tttacctagt tttttcaaac 1020
atgacatttt acagtggtct gcgtgaatga gaatcctaac agggtccaca ggttacattt 1080
agacgtgtca cttcatttag agcaacctcc tcttacccct cctaagagac aggactgatt 1140
gtcttgtcca gtgcccccac actctgaatt tgtctgatag cttcgttgtg gtgtcactta 1200
acgtttgtat cacctgcatg tcctgtaaaa tgaatgttca tttggaggct tggtcagatt 1260
```

```
ctcattcaaa gttttgtcgg caagaatgct tctactaagt ggtgctttct gtttcttatt   1320
gcaggctatc cccagctgtc tcacttttag ggatgctaag attggttctt gggtcaggtg   1380
gacagcctga tcactatttt agagttctcc gtaaacacgt atgcaatagt tttatctgtt   1440
ggttatcatt gtccgagtcc atcgttttct gaggatatta gttatattct ttataaaact   1500
aacgtgcatt ttatttattg taaatcatac atatagtgcc cttttgccat gatactgttt   1560
atattgaagt tgctttagtt tcatcttgtt tcttgtgtta gggaagtgcg gctccttcga   1620
agacaaacaa aaacatcttt ggaagtttct ttgctagaaa aatatccgtg ctccaagttt   1680
ataattgcta taggaaataa tgcagtag                                      1708
```

<400> 6082

```
gaatataatg ggaagtgtac aggctaggaa gaacttgaag tgaacaaatt tcaaaatctt     60
aacctgatgc taattttcag ggttctccat tacagtgtaa aaattcagac cacgacaact    120
atggtgtcat gaggaaaaaa aatcaggcat tttttccaaag gaagtgctaa tgggcctatt    180
tgacttctga gtgaagcaaa aactacccag atccattccc tacaattcac atccccaaag    240
gtcaaaaaca aactaggagg acctgggaat ttcagctgga gatactgatt attgagttct    300
gaagtagagt gttggaaata ggcaattaga gaaagtccat tgatgtcatt ttgtttataa    360
tattgcagtt catactgaat gaccacttga tatgactaat tcagggaata tatatttttc    420
tatgaaagct atgaatgtta ctatcacggc ttttccttat ttttacttgt atgtagcagc    480
atttacagaa atgccaaaaa tgtgcctcat taagaggcag gtcttaatca gttagataaa    540
aataaaatgt atagcttaag atcaaaacag tcatattttt agatacagtg aaatctttta    600
tgtttctcta cagcacctta aaaattagaa cttgaatact ttgagtaaac ttactacaat    660
ctcatcccaa caaactttaa tggtagcatg tttggcctat ttcattgtgg cctgtactag    720
gattagaaaa tttggtcgtg gtataacaaa gaagtgtatt tacaatagga tttaatttgt    780
tgttaatatg tatttgttga aattaaaatt gccagattaa atgaatatac tgtcgcatct    840
ttttaacata gtaacgtgtt actggaaaaa ttaagttgtt gaaagtaagt tgttttccca    900
tttaaaaata tctgaatata tgatttgcat gtgtaaatct gaaaaactaa actacagaaa    960
cctagggttt tctatttctt ttttaagtca aatgcatttt tttttttttg ttatacagat   1020
gaaccaagtg tctaaaatac ttgagaaatt tgtggttgca tgtctgtttt aaaaaaaagg   1080
cttttgtttt tttagcataa gccagaatat tctaacctac taagtctgtg tcctttgctc   1140
cttttgtagt atactttcat ctaaattact gatccccaat atgttgatac acaggtgaga   1200
aagggaagaa ttcctaataa actgctatta cttttaggtg                         1240
```

<400> 6083

```
attttacact taatttataa tatttattga gtatattatg tcctcaacaa gtaactataa     60
aatgaaatac ttaactcggt gaagactatt ttatgcaaag ttttttttttt ttttttttttt    120
ttttttagc aatttcagtg taatgaaaga atttaagctt tgaatttata atttgctgtg    180
gtggggttaa tttctgtcag tatttgagat tgtattatca gtcttgcata atgaaatcct    240
tttttggcta agtatttaat tcgaacatat ttgccttttt aaaaagtgct tggcctaaac    300
ttattgtaac tgcatgaaat aagcatttgc ttaaaactta acattgtaaa attgttctct    360
ctgaaatgtg tgcagaattt aaatcatggc caaatgtatt actattaccc tatttacagt    420
aatttgcttt gcagaaaata tttcttcatc atggaactgt gaaatcaaat tgaagatctt    480
actggtaaaa atgacaaatt aacaaaagga ctaagacaag tggtgcccaa acaacctttt    540
tattctgcag ttccatcatc ataatagacc agtaacccca ggagtcctaa tgttttaaaa    600
catcattgtg gtgatcttgt ttattctatc tcactaagga tatccagttt cctaagctct    660
tactggctag caatttcgtc ttaattttat tgctaaatgt tcaaattttg cttccaaact    720
cactttattt ttgcagatgt gtacatctgc taagtactaa ttttatgtaa atgattttgt    780
tgattatctt tccacatctt aaaatgtttc taacagcttt gagattttat ctcaacaggc    840
tctctctgac cccaaagtag tacttacctt cgtgactact gacaaagtca caaaatgcag    900
gcgatgtcat gtatttcggt acaactaaat ctaggaaacg ttttttcat tgcattactg    960
```

```
catatttttca tttttcattta aattatgtcc ccttttttctc ttgcttgaaa cagtgctcct    1020
cgaacttttgt cttccagcac atttttaaaga gaaccaatta aagaacaatc acacattctg    1080
cttattaaag gctatttaaa aagaaacatt ttgtattaga aaatggccaa ctttaaaaca    1140
ctattttttta cactcataaa aatgttttttt aaatcgcctt gacaatcatc agctttttgaa    1200
atgtgaattc ctattgccag agtaaaggtc tcgttttttat accacca    1247
```

<210> 6084
<211> 1708
<212> DNA
<213> Homo sapiens

<400> 6084
```
cttattgccc gcgcggtgag ggagcgtggt ctcgcgcaag ccggcgtgcg gtcccgcggc    60
gctgcagttg tgtccagccg gtcacggggc ggctatggcg gccacgttct tcggagaggt    120
ggtgaaggcg ccgtgccgag ctgggactga ggacgaagag gaggaggagg aggggcggag    180
ggagacgccc gaggacaggg aggtgcgtct gcagctggcg cggaagaggt gaggcaccgg    240
gataagggca gcgcgctcac cgcagctgga aggtgcgcgg gcctggcagc cgcgacggcg    300
cctaaggccg gggctccgcg gtcttccgag tggcccccgc ggttgccgcc gctccttggc    360
tctgcttggg ccctgggtct ccgtgaagcc gcggcgtcca gcggcgccag ccccaggtgt    420
gtgtggttct cgcgtggatc tgctggcgtt tcgtggagtc cagggtgaag ccgctgtggg    480
agggctgggt tcaaatccgt tcttttaaagg ctttctggag cgtttctgga gcatttctgg    540
aggcttggtg tcttgcggac tcgtgatctt cccgcttgtc acactgtctt gggccgcagc    600
gctcccgcgg gccccaccac gtttgtcgtg gattgttcac ggacacacca attccctcga    660
aactttttaa acctgcaccc aacacttcaa ttagcatgat gtgtcagtag ccgatgaaca    720
cgctttaaaa aaattgtttc caaacacaaa aaagtgggag aaaatagtca agtgagccct    780
gacccctaca caaccgggta aattcaacag gaagattttg ccacgtttat tttctctccc    840
gccactccta agcgaattcc agtcatcatg gcctttcacc tctacatttt tcagaataca    900
tctcaaacgt tttagggatt ttcttacata tgctattatc acccctaaca acactaatac    960
taattttcca gtatcatttt gtagtccatg ctcactcacg tttacctagt ttttttcaaac    1020
atgacattt acagtggtct gcgtgaatga gaatcctaac agggtccaca ggttacattt    1080
agacgtgtca cttcatttag agcaacctcc tcttacccct cctaagagac aggactgatt    1140
gtcttgtcca gtgcccccac actctgaatt tgtctgatag cttcgttgtg gtgtcactta    1200
acgtttgtat cacctgcatg tcctgtaaaa tgaatgttca tttggaggct tggtcagatt    1260
ctcattcaaa gttttgtcgg caagaatgct tctactaagt ggtgctttct gtttcttatt    1320
gcaggctatc cccagctgtc tcacttttag ggatgctaag attggttctt gggtcaggtg    1380
gacagcctga tcactatttt agagttctcc gtaaacacgt atgcaatagt tttatctgtt    1440
ggttatcatt gtccgagtcc atcgttttct gaggatatta gttatattct ttataaaact    1500
aacgtgcatt ttatttattg taaatcatac atatagtgcc cttttgccat gatactgttt    1560
atattgaagt tgctttagtt tcatcttgtt tcttgtgtta gggaagtgcg gctccttcga    1620
agacaaacaa aaacatcttt ggaagtttct ttgctagaaa aatatccgtg ctccaagttt    1680
ataattgcta taggaaataa tgcagtag    1708
```

<210> 6085
<211> 1240
<212> DNA
<213> Homo sapiens

<400> 6085
```
gaatataatg ggaagtgtac aggctaggaa gaacttgaag tgaacaaatt tcaaaatctt    60
aacctgatgc taattttcag ggttctccat tacagtgtaa aaattcagac cacgacaact    120
atggtgtcat gaggaaaaaa aatcaggcat ttttccaaag gaagtgctaa tgggcctatt    180
tgacttctga gtgaagcaaa aactacccag atccattccc tacaattcac atccccaaag    240
gtcaaaaaca aactaggagg acctgggaat ttcagctgga gatactgatt attgagttct    300
gaagtagagt gttggaaata ggcaattaga gaaagtccat tgatgtcatt ttgtttataa    360
tattgcagtt catactgaat gaccacttga tatgactaat tcagggaata tatattttttc    420
tatgaaagct atgaatgtta ctatcacggc ttttccttat ttttacttgt atgtagcagc    480
atttacagaa atgccaaaaa tgtgcctcat taagaggcag gtcttaatca gttagataaa    540
aataaaatgt atagcttaag atcaaaacag tcatattttt agatacagtg aaatctttta    600
tgtttctcta cagcacctta aaaattagaa cttgaatact ttgagtaaac ttactacaat    660
```

```
ctcatcccaa caaactttaa tggtagcatg tttggcctat ttcattgtgg cctgtactag    720
gattagaaaa tttggtcgtg gtataacaaa gaagtgtatt tacaatagga tttaatttgt    780
tgttaatatg tatttgttga aattaaaatt gccagattaa atgaatatac tgtcgcatct    840
ttttaacata gtaacgtgtt actggaaaaa ttaagttgtt gaaagtaagt tgttttccca    900
tttaaaaata tctgaatata tgatttgcat gtgtaaatct gaaaaactaa actacagaaa    960
cctagggttt tctatttctt ttttaagtca aatgcatttt tttttttttg ttatacagat   1020
gaaccaagtg tctaaaatac ttgagaaatt tgtggttgca tgtctgtttt aaaaaaaagg   1080
cttttttgttt tttagcataa gccagaatat tctaacctac taagtctgtg tcctttgctc   1140
cttttgtagt atactttcat ctaaattact gatccccaat atgttgatac acaggtgaga   1200
aagggaagaa ttcctaataa actgctatta cttttaggtg                         1240


<210> 6086
<211> 2277
<212> DNA
<213> Homo sapiens

<400> 6086
cacactcctg ggctcaagca atccttgtgc cactacacct ggctctcttg ctttgttttt     60
gagcttactc caataaccct tcatgctctt tgctataaat agaaacttct tcctatgttt    120
gatgcctttg atcttttgtt ttgataggca agaagccatc tttcagattt ctagatagcc    180
ttaaggaagt tttatctaga tagtttgcct acaagaggag cattaatact acccatttat    240
ggaggtttta cttgccaaat ttgggcagtt tttatcattt aaaatctagc aaaacattat    300
gtcagtgccc tcccaggcct ttaaagtctt catgtaacag caggctaggg gttttgtcag    360
ctgtaaagtt acatcttctg ttcctccaaa cagaaacata cttttttaatc taaacaagtg    420
gatacttttc ttgggagcat gttaaaaaaa aaaaaaagtg aagccagcca gtcacacggt    480
gtgatgtcgt ttttacatag cacctttata cacgatataa aaaagtaggt ttttgcatc     540
aactgcaaac atgttttgta ctctgtggat cggaatcttg gtgaggaaga gcattgcatc    600
ccgcaaaagg ctgatgagtc agttagctgg agagacagtg ccatcattct gggttgcagt    660
tctggtgaag taagtaggat gttaacactg cagatggaaa tggttttcag attgccacat    720
ggaataatag tatggaacgt gaaatttcag gaataggagg agattctttt attattttcc    780
tccttccact ttgtacattt ttttaatagc ctgcaactag ttacatttat cttttttttt    840
ttttttacat ttttatccat aatacaagta acttgactaa agccagtgtc tgtttcatgt    900
aaatatatta acaggtccaa aatcaccaac taaaattagc tttatactga cttttctaa     960
agtcagtcct tgtctcaccc aaatatttta acaagtccaa aaatagcaca tagctacttg   1020
gaaccatatt aaaatctcat tataacatga atttcaggta ttccatgttg tagacttctc   1080
cttgaaagat aatgacattg aaaaatgctc ttaagagagt tgttaattct gtttcccaaa   1140
acttcctgga taaaacaatt ctaccttaat gctattaaga ctatggtagg tggtttttttt   1200
cttaaagtaa caagactgac gtataaaata tgaatgcgac atttaagatg aaagtgttca   1260
taggcacacc tcgctttatt gtgctttgct ttattgcgct tcgtagatac tgtgttttta   1320
ctagttgaaa gtttatggca gccctgtgaa aaataagcct gtccgtgctg tgaagcgaac   1380
agcatgtgct cacttcatgg ctctgtgtca tgtttcggca attctcgcag aatttcacac   1440
ttttttcatta ttatctgtga ctgtgatctg tggtcagtga tctttgttgt ttctaatgta   1500
atcgttttgg ggcattacaa accatgcctg tgtaagatgg cggattagta cattctcaca   1560
ccgctataaa gattctacct gagactgggc attttatgaa gaaggggggg ttataaagat   1620
actacctgag actgggcatt ttataaagaa aggagggtta attgactcaa ggttctgcat   1680
gtctggggag gcctcaggaa acttacagtc atggcagaag atgaagggga agtgaggcac   1740
atcttacatg atggcaggag agagagtgtc caggagaaac agccactttt agaactatca   1800
gaactcatga gaactccctc actatcatga gaatagtgtg ggagaaactg tgcccacgcc   1860
aatcacctcc taccaggtcc ctccctcaac acatggagat tacagttcga catgagattt   1920
gggtagggac acagagccaa accatatcaa atggccaggt taattggtaa atgtcgtatc   1980
ttctgactgc tccactgact gactgttctc ctatgtctcc ctctcctgga tctccctatt   2040
ccctgagaca caacaatatt gaaattttag gcgaattcac aaccctgcag tggcctttat   2100
gtatttaagt gaaagacaga gttgaacgcc tctcactttc agtcagaagc taggtggctc   2160
acgcctgtaa tcccagcact ttcagaggcc aagtggggcg gatcacttga ggtcaggagt   2220
tcaagaccag cgtggtcaac atagtgaaaa cacctctcta cttaaaaaaa aaaaaaa     2277


<210> 6087
<211> 2277
<212> DNA
```

2990

<400> 6087
```
cacactcctg ggctcaagca atccttgtgc cactacacct ggctctcttg ctttgttttt      60
gagcttactc caataaccct tcatgctctt tgctataaat agaaacttct tcctatgttt     120
gacgcctttg atcttttgtt ttgataggca agaagccatc tttcagattt ctagatagcc     180
ttaaggaagt tttatctaga tagtttgcct acaagaggag cattaatact acccatttat     240
ggaggtttta cttgccaaat ttgggcagtt tttatcattt aaaatctagc aaaacattat     300
gtcagtgccc tcccaggcct ttaaagtctt catgtaacag caggctaggg gttttgtcag     360
ctgtaaagtt acatcttctg ttcctccaaa cagaaacata ctttttaatc taaacaagtg     420
gatacttttc ttgggagcat gttaaaaaaa aaaaaagtg aagccagcca gtcacacggt     480
gtgatgtcgt ttttacatag cacctttata cacgatataa aaaagtaggt tttttgcatc     540
aactgcaaac atgtttttgta ctctgtggat cggaatcttg gtgaggaaga gcattgcatc     600
ccgcaaaagg ctgatgagtc agttagctgg agagacagtg ccatcattct gggttgcagt     660
tctggtgaag taagtaggat gttaacactg cagatggaaa tggttttcag attgccacat     720
ggaataatag tatggaacgt gaaatttcag gaataggagg agattctttt attatttcc      780
tccttccact ttgtacattt ttttaatagc ctgcaactag ttacatttat cttttttttt     840
tttttacat ttttatccat aatacaagta acttgactaa agccagtgtc tgtttcatgt     900
aaatatatta acaggtccaa aatcaccaac taaaattagc tttatactga ctttttctaa     960
agtcagtcct tgtctcaccc aaatatttta acaagtccaa aaatagcaca tagctacttg    1020
gaaccatatt aaaatctcat tataacatga atttcaggta ttccatgttg tagacttctc    1080
cttgaaagat aatgacattg aaaaatgctc ttaagagagt tgttaattct gtttcccaaa    1140
acttcctgga taaaacaatt ctaccttaat gctattaaga ctatggtagg tggttttttt    1200
cttaaagtaa caagactgac gtataaaata tgaatgcgac atttaagatg aaagtgttca    1260
taggcacacc tcgctttatt gtgctttgct ttattgcgct tcgtagatac tgtgtttta     1320
ctagttgaaa gtttatggca gccctgtgaa aaataagcct gtccgtgctg tgaagcgaac    1380
agcatgtgct cacttcatgg ctctgtgtca tgtttcggca attctcgcag aatttcacac    1440
tttttcatta ttatctgtga ctgtgatctg tggtcagtga tctttgttgt ttctaatgta    1500
atcattttgg ggcattacaa accatgcctg tgtaagatgg cggattagta cattctcaca    1560
ccgctataaa gattctacct gagactgggc attttatgaa gaaagggggg ttataaagat    1620
actacctgag actgggcatt ttataaagaa aggagggtta attgactcaa ggttctgcat    1680
gtctggggag gcctcaggaa acttacagtc atggcagaag atgaagggga agtgaggcac    1740
atcttacatg atggcaggag agagagtgtc caggagaaac agccactttt agaactatca    1800
gaactcatga gaactccctc actatcatga gaatagtgtg ggagaaactg tgcccacgcc    1860
aatcacctcc taccaggtcc ctccctcaac acatggagat tacagttcga catgagattt    1920
gggtagggac acagagccaa accatatcaa atggccaggt taattggtaa atgtcgtatc    1980
ttctgactgc tccactgact gactgttctc ctatgtctcc ctctcctgga tctccctatt    2040
ccctgagaca caacaatatt gaaattttag gcgaattcac aaccctgcag tggcctttat    2100
gtatttaagt gaaagacaga gttgcacgcc tctcactttc agtcagaagc taggtggctc    2160
acgcctgtaa tcccagcact ttcagaggcc aagtggggcg gatcacttga ggtcaggagt    2220
tcaagaccag cgtggtcaac atagtgaaaa cacctctcta ctttaaaaaa aaaaaaa       2277
```

<210> 6088
<211> 287
<212> DNA
<213> Homo sapiens

<400> 6088
```
aagccatgtt gaaagccagc acaggctgaa agctaagcct cttgtgccaa acagccaaat      60
tgtaaatgca aaggaaatgt tcgaaggaaa ataaaagtgc tgctccagtg aacacaccag     120
tgataaggaa acagccttct tgctgatagg gagaaagttt tagtgcctgg agagatgatc     180
agcccagaca ttatatttcc ttaacgcaga gcctaatcca cagcaaagtc ctaactatct     240
tcacttctat gaagactgac agaggtgagg aagttgcaga agaaaag                   287
```

<210> 6089
<211> 287
<212> DNA
<213> Homo sapiens

<400> 6089

```
aagccatgtt gaaagccagc acaggctgaa agctaagcct cttgtgccaa acagccaaat     60
tgtaaatgca aaggaaatgt tcgaaggaaa ataaaagtgc tgctccagtg aacacaccag    120
tgataaggaa acagccttct tgctgatagg gagaaagttt tagtgcctgg agagatgatc    180
agcccagaca ttatatttcc ttaaggcaga gcctaatcca cagcaaagtc ctaactatct    240
tcacttctat gaagactgac agaggtgagg aagttgcaga agaaaag                  287
```

<210> 6090
<211> 1763
<212> DNA
<213> Homo sapiens

<400> 6090

```
gttgggtgcc tacccaccag tctcatgtgt gagtgtatct gtataagtgt gtgtatgtgt     60
gtgtactcac gtgtggctct ccctctgcca ctgagtttct gtgaccaggc ccacctggtc    120
actaagggag gggactgatc cctggggttt cctcgttcct gctgtggagt gagctggggc    180
ttggtgagca ggccagcaga gggaggctgt atggtgcatg tgtgatatgt gtggttgtgt    240
gtgtgcgtgt gtgtgtgaca gagaggtgtg gtggtgtctg ggcagctgta cctggctgat    300
gggtggtgtg agggctatgc gatgggacag tgctggggta agcctgggag tgtgtggcca    360
cggtaggagt gtgtgactgg tgggacacag tctatgaaac tgccggtgta tgcttgggga    420
gtgactgtga ttgtggggaa ccgagagtgc ctgggcgtgg gtgttagcgg caggaggggg    480
tgtgacaagg tgtgtggtga cagtgctggg agggaaggtg agagcccagt gtggggtgt     540
gtgtgtgagt gtgtgggaga ccatgaggat gtgggtgtgc acatggagag ggctagaggg    600
caagtcttgg ggtttgtagt gttgtgacca agacctcggg ctctgtaccc aagaattatt    660
tgggctccaa tacttgcttg tgcctgttaa gagcaagaga cccaagctag gcctctcaag    720
gctgagtgtc cttatctgca gaatggagag agtgaggaca aaagttcctg tgttaaaggt    780
cctttaacac aatcttggcc catagtgaga acacagcaca tgtgaagtct tttgttgtca    840
ccacccccag ctatacggtt cccattctcc tgggagctgg ggctaaagaa agcccagaca    900
gtatccaacc caatttcctg cctgtctgtt gcccttccc atctccttga ccaagcagct     960
tgagggaggg gggatgccca gacagagccc ccagtaccca gccctgttca gcctgcatga   1020
cagcccctcc ctcaccagac cttagtgtca gtagtagcga tggggggagac aggggtgggg   1080
gatgattcag agctgtgact gcagggcgct gacaccattt agctggcaca gtttagatta   1140
aaattagaaa taatttaaag tacagacaaa aagataaagc caaggatgcc tctgcccca    1200
gggaatggtg atggggggtct ccagctgggg gaggggttca catctgggga gcagaatctt   1260
tcttagaggc ttgagctggc cttcagagaa aatgcttagg cctttcagcc aggagacaca   1320
gagtaccttg ctacctttgc catttcttcc tcccaggata tctccaggcc tcagtttttt   1380
cagctgtgta atgggcacaa tagtaatgtg agaatcacct gaactgtaag gcacaagaga   1440
ttaaaaaatg tcactcttca gtctgggcac ggtggctcac acctgtaatc ccagcatttt   1500
gggaagccga ggcaggtgga tcacttggtc aggaatttga gaccagcctg gccaacatgg   1560
tgaaaccctg tctgtaccaa aactacaaaa attagctggg tgtggtggcg cgcacctgta   1620
atctcagctg ctcaggaggc tgaggcacga gaatcacttg agaccaggag gcagaggttg   1680
cagtgagcca agatcgtgcc attgcactcc agcctgggcg atagagtgag accctgccac   1740
attaaaaaaa aaaaaaagtc act                                          1763
```

<210> 6091
<211> 8067
<212> DNA
<213> Homo sapiens

<400> 6091

```
cagacccctg agtctaactt attatatttt atatatgcat ggtattttat ttatctatat     60
attataggta ttaaaatctt ttaaacattt ttctaaaaag ctattttcaa aaaaaatttt    120
gtggttttta actttggttc agtttggtaa gtgctatacc ttttttttaat accagtatct    180
gtatgttatt ttggtttatt ttactcttta agttaaatac agattaatgt ccctgtaaat    240
ctgataatga taaatatagc ataaaggtgt tatattcaaa tggattttaa ttttttctcca    300
aactaatatt tacataaatg tatgtaaact atttgagtta tgtggagttc cagttagttt    360
tcttttgtgt atgtctcaac aaatgtttag tgttaatgct tgtcagctca catttttcttt    420
tcctttgttt tgtaagatta ctttcttccc ttcctctctt ccttacctcc attaccttcc    480
tttactcccc ttcctccct tctcttttcc tctctctcta ttccttctct taccctttcct    540
```

```
tctccccttt gtccttcctt cccctgtctc tgatctcatt ccctcctccc atgccctcct   600
cactattccc cttcccctgc ttctttcctc agcctctctt tcttttttaa tattgcctcc   660
ctccctccct tcccttcctt ccttccttcc ttttcctct tctctttcca cccaccttt    720
tatttttca gactggctta atgaacagtc tagtgataga aagtggtaaa aataagttat   780
agtagatcta tatagctata taatccagta tatccaatat aatagaatat tatgcaataa   840
ttacaaacta tgcttttgt gcttcttcat atctacctca tgcccctcat attttcatc    900
ttcatattct gtcatttacc aaatcctatg aaaataatct ctcaaattca tcctttccta   960
tctccttcat cttcacatcc tgtcatttgc taaatcctag aatttttcaa attcattctt  1020
ttcatttctc ctaccatccc ccaatttccc cttaacagaa ctattaaaat agctgcctga  1080
gttggtcttg tactattctt ctatttagcc aataggctat ggcatatttt aatcgtccta  1140
aagcacagtt ctcatcagat tactacctgc ttaaaccttt ctgttactgg ctgcccattt  1200
cctaccaact taatataata ccgtagtctt cagtgacttg cagattatgg ctctaacctg  1260
cttttttagt tctctcaagc tccattttac ccttaacttc cagtggaact tgctttctgc  1320
ttccatgtct tttttcccac tatttgcttt gcctggagta cttaacttct tagtctgccc  1380
tttagaacct acctccttcg aggcccaatt cagatgccac ctttccattt tctctattat  1440
tatctaagtg tctcttctcc cccttatcta tgttataaat tccttaagtt cagagactgt  1500
gtcttgaaat tctctgaatt tttaacacag tgccttgcta ttataaatat ttggtagttt  1560
taattgtgca gtaaacactt ccatttatga aaatttctgt tttcttgtct ctagttaaag  1620
aagagtgtaa gagtcctaaa gctgagtgtt ggtcccaaaa aatgtccaat aagcaggtaa  1680
gcttccttaa aatcaaattt ctagttacca attttttaat gcaattggtg gctctgtagc  1740
attggactga atttctcaac cttttcaacc aaatttataa ggtgtgtggc cagagggtca  1800
ctgaagttaa gctgacagtc acttggatgg gaggttgtac acctaaagtc ctggatttgg  1860
aactagaggc acctgaaatc ctgattctct catttaatag ttgggtggcc ttgagcaatt  1920
cactttacct ctcacagcct caattttctc atctttaagt ggagataaaa atattaatca  1980
cttgtccagg cgtggtggct catgcctgta atcctagcac tttgggaggc caaggtgggc  2040
ggatcacctg aggtcaggag ttcgagacca gccttgccaa catggtaaaa ccccgtctct  2100
actaaaaata caaaaaaatc agccaggcgt ggtggcatgt gcctgctgta gtcccagtta  2160
ctcgggaggc tgaggcagga gaatcacttg aacccatgag gcaaaggtcg cagtgagctg  2220
aaatcgcacc actgcactcc agcctgggca acagtgagac tctgtctcaa aaaaaaaaa   2280
aaattaatca cttgtagttg ctcccaatat atatggtctt ttgtgtgtgt gtgtgtgtgt  2340
gtgtgtgtgt gtgtgtatac atagacatat atatacacac acatagacat tatatatggt  2400
cttatatata tacacataga catatatata tggtcttata tatatacaca tagacatata  2460
tatggtctta tatatataca tagaaatata tatttacata tacaattgaa gtacatggaa  2520
caaaatagca aatttaacag gctaacttct gtggaattag attggtgtgg gggaagccaa  2580
gatcatttat gtttttacttt atatagtctc tgctgtttac aaggattatg gatgcatttt  2640
ataatgaaag aataacaaat ctttgatcta aaaaaatttg acacgtatat ttattagatg  2700
tgtacttttc tgtatgccta tcatatttta atatatattt ttttaaattg atctcttata  2760
gtaatatatt aaatttataa aaggtcttag ctgaatattt ggcacataac aggtagtaaa  2820
tggaacccat taatgtttag ataccagtaa acggtttaat tacttgactt ttaaggccct  2880
ctccatttga aactcttata ctgtaatttc ctttcttcta gaaaagggat tgataaactt  2940
tttgttcaat agacatcttt ggtgaagccc atggactttt ggtgaagcca ttattattct  3000
cagaatagta tttttaatgc taaaataaaa tacatacgat tttaaagaaa accagttata  3060
ctgatataca attagaatca ccactgttgt ggttttcata gttgatttgg ctgctataa   3120
taacaatacc atagactagg tacatttgaa caataaacat ttatttctca cagctctgga  3180
atctgagaag tccaagatca aggcactagc agaataatgt ctttaatgct aaaaagattt  3240
aagagaaaac cagttatatt gaaatacagt tagaatccgg taaagtgcca ttgtctggtg  3300
ggggctccct ttctggcttg cagatgatgc gtcttctcat attctaacat gatggagaga  3360
aagagctcta ttctctttct attcatataa ggacactaat accatcatgg atgttgcacc  3420
ctaaagacct catctaaact taattaccta ccaaaggccc cacctcctaa tatgatccca  3480
ttaggagtta ggattttaac agaagaattt tgggggaata caaacatgca gaccatataa  3540
gtgttttgtt gcctatattc ataattgcag gaaatgctaa atctcattga gaggttaatg  3600
aagattaagg tgtaattttc cccatccaag tttataggcc ccttttctta tgatacaaaa  3660
gggaaaatag cacataaaat ttttttgcaa caatttattt agaacactat tacatattaa  3720
ctataaatat atttgcacaa aaagtttatt cttacttttt taatagactt tagaagggcc  3780
tgccaaatat aatattaagc tattgaagag aaatgaaagt ccagaagtct cagaaaccca  3840
aaaggttgtg actggttatc caaatgctat tgataaggta aaaaactatt tattccaatt  3900
ctcttcccaa actttaacac ctgggaagat gattgagtga aaatcgaatg accatttttg  3960
tacataaaac tcagcttttt gtgtgttctt gtattatacg ttcatcttca tgcccaaaat  4020
atttattctt ttagcctaac tctggaattg agaacttttt agcatctttg aatatctcca  4080
aagaaaatga agtacagtca tctcatcatg gggagcctcc aagtgaagag catttgtcac  4140
cacagtcatt tgccatggtt cgtattttgt aggaactttc ttactgtggt aatttctcga  4200
```

```
ctgttgacca tgcagacata tcccatgcaa gtgttcaaac acttccatca tggaggctgg   4260
tatgttacat cattattgtc atcttgtgag gaaaccaggc tgccctgggc aatttagcca   4320
tactttttct ctttagacca cagttcccct gctttttcaaa cattgctact aggtaactgg   4380
gatgaaagtt aagcaggagg ataagtatcg tttctgtatc agaaatgtgg gtgttgggtt   4440
ttttttttc agtttctatc tgaatgtagt taatgtctta attgttaaca atggaattct   4500
ttccaagaaa gatcaataag ttctacagat gtaatgttga ctttgttctc ttcaccctca   4560
ccatctccat gtgaatcatt ttcaaaaaga agggaacacg gatgcttaaa gaaattctaa   4620
aaattgatgg ctctaacact gtggaccata agaatgaaat caaacagatt gctaatgaaa   4680
tccctgtttc ctctaacaga agagatgaat atggattacc ctctcagcct aaacaaaata   4740
agaaattagg taagtaaact aaatactatt accaataata tcattttaaa aattcaattc   4800
atttggttct ttttaatcat gtactttaa agataaaact gcttttattt taatgtattt   4860
atttatttta gagatggtgt cttgctgtgt tggccaggct ggtctcaaac ttctgacctc   4920
aagcaatcct ctcacttcag cctcccaaag tgctgggatt acaggtatat gccaccacac   4980
ctggcccaaa actactttta ttcttaaaac tataattttt atatttgttt cagttatata   5040
ataatataac tggccaggtg tggctcatgc ctgtaatctc agaactttgg gaagctgagg   5100
caggcggatc tcttaagctc aggagttcaa gaccagcctg ggcaacatgg cggaaactct   5160
gtctctctaa aaaatacaaa agttagctag gtgtggtggc gtgtgcctgt agtcccagct   5220
actggggagg ctgacgtggt aggattgctt gagccttgga ggcagaggtt gcagtgagcc   5280
aagatcacgc cactgcactc taacctgggc aacagagata gaccctgtct caaaaaacaa   5340
aaagaacaat aataatacaa ccatgtaacc aatagatcta cagtcactaa atgtcttctt   5400
gtgattactt aattgtagtg ttatagataa tcattctgta gacatccaaa cctttaaaag   5460
tttgcacatt ctagcttttg tcctcagtaa tttaaaaatt atcatgtaac ttaaatacat   5520
tatttaactt ttctgaaatc ttgtttctta tttataaaat aagaataata cattacagat   5580
tacttgtggt aattatataa catgtataaa tataaaacag cactatgtcc aacacattgt   5640
aggtgctaat aattgatatt aatattatgt taaaataacc taactgttgt aaaaatagaa   5700
aaatctacaa aatcaattaa aaatcattaa tagagttaga tataggaaag tgagtcatac   5760
tcttaagtct gtaaagccta tagcataaca tctggcacat aactggattt cagtaaatat   5820
ccgccatatt tgttcctacc ctgaatgtcc tctatacttt agcatttat ctgtataatg   5880
atctactaaa ggcagccagg aagaatgact gatacaaaag tggatgtggg cagaagtttc   5940
tcagagaagt caaaaacatt ttggaataag cagatctaag cgtattaaag atcaaaacct   6000
ggaattggct gggcacgttg gcccacatct gtaatgccag cactttggga ggccaaggcg   6060
ggtggatcac ctgaggtcag gagtttgaga ccagcctggc caacatggtg aaacccccctt   6120
tctactaaaa atacaaaaaa ttagccgggt gtggtggcag gcgccaccaa gtagctgtaa   6180
tcccagctac ttcagaggct gaatcaggag aatcgcttga acccgggagg tggaggttgc   6240
agtgagccaa gatcacgcca tcacactcga gcctgggcaa caagagcgaa actctgtcaa   6300
aacaaaaaca aaacctggaa taaaagcaga acctaacccc atttatattc cagtgataat   6360
taattaaaaa ttccaaaaaa tattaggaac ctgattattt attatagtga cagacatggt   6420
cctgaaatag aaccaaatta attttaagac aaaattagat aaagatggtc ccattgtcaa   6480
aaacaagtaa gtttttacttt atttcagtat aggaaaaaaa aaaaaaaaaa ctcataggct   6540
ttagagtctt agggtcacta gctcagaatc cagcccctgt tatagaacta actggctctg   6600
tgactttgag caagccactt aactgctttt ttaatctata ttagtaagaa gtttggatta   6660
attcttcaat gaggtatgct tttgttctat tagtgagttt gttaatcata aagaatgtga   6720
acactcagaa ttttaaaatc atcttccata taaaaacact tagaagacaa tttcaaaaaa   6780
aactttaag aaatattatt tcagagccac aaaaatattc atccatgtgt ctcagaatgt   6840
aaggtggaat tgcaagaatt gaggtggaag ccaaaacttc aaaacttaag gatgaattat   6900
atttcagctc aagaaagcca tttgtttatt cattctttta tttttctctt cttacttctg   6960
caaaacaaga aagccatttg tttgttcaaa ttttacctgt agcagtacca tgtagtcatt   7020
agctgctcaa ggttttaatt tttggcagtt aggtacttat attttaaaat ctttatctta   7080
ataatttatc attaatcaat tatactcatc caaaaacctt tactgaagtc acaataattt   7140
taggaagtac taaatagttg tttatatgtg cttcatggaa gactcatctt tttaatgcag   7200
ttggtggctc tatagcgtct aactgaattt ttcaaggttt tcgaccaaat ttataaggtg   7260
cgtggccaga ggaccactga aggtaagctg acagtcactt ggatggcagg ttgtactgct   7320
agagtccagg atttggaact agagccacct gaaatcctga ttctgttatt taataatggg   7380
tggccttgag caattcactt cacttttag cagttcctg cttgctcttc tataaaaccc   7440
tacaataagt gcataatttg agatagtatt ttattaataa agatagactc ttttctcttt   7500
tttggtagca tcttatatga acaagcctca cagtgctaat gagtaccata atgttcagtc   7560
tatggacaat atgtgttggc ctgcccccag ccagatccct cctgtatcca caccagtaac   7620
tgaactttct cgaatttgtt cccttgttgg aatgccacaa cctgatttct cctttcttag   7680
gatgccacag gtatagtata ctactgttct atttatataa attatttaac attaagctta   7740
aataaattgg ttgaaaatgt ttagctagaa aaaataaaat ggggcctatt tttcttaact   7800
ttatgagcag catagattta tgcttcttac cctagctcta atatttatac ataaccaaag   7860
```

                                       2994

```
ccctaagaga agctgacagg gaggaactgg gcagcaggta tcctggcaag attcctcaaa      7920
ctaatagagc cagggatctt ggcctacagt agcaattttc aaactttttg gtctcagaaa      7980
cttcacactt ttttggagg accccaaaga gattttgttt acttatatcc atatttactg       8040
tgtttgaaat taaaacaaaa aaaattg                                          8067


<210> 6092
<211> 618
<212> DNA
<213> Homo sapiens

<400> 6092
ggtgagaaat tacttaatgg ctgcaatgta tgcagtgtac ataattcagg tgatgaatat        60
aagaaaagcc cagactttac cactctgcaa taaatccatg taacaaaact gcactcgcac       120
cccttacgtt tatacaaatt tttaaaataa ataataacta gaaaagcaag aggaaaccaa       180
acccaaaatt attagaagaa aagaaatgat aaagattggg gcagaaatta atgaattgat       240
actaaaaata gtacaaaaga tggatgaaag aaaaagttgt ttttttttt taaaagataa        300
gcaaaatcaa caaacctta gccggactgt aaaagagaga atatccatat gaataaaatc        360
agagatgaaa aaggagtcat tacatctgat aacacagaaa ttcaaaatat tttagagact       420
attatgagca actatatgca gtaaattgga aaacttagaa gaaatggatg aattccgaga       480
cacataaaaa cataccaaga ttgaaccatg aagaaatcca aaacttgaat agaacaacat       540
taacaagatg gaagcggtag taaaaagcct cttatcaaag tagaccagga cctggtgttt       600
tcgctactga attctgcc                                                    618


<210> 6093
<211> 9188
<212> DNA
<213> Homo sapiens

<400> 6093
ctgttttaat gctggtcatt tgtgtctgaa ttccaaaggg acgggagtat aatgaggttt        60
gtctgacccc tccctcccat catggcctga actagttttt caggtttct ttggaatgcc        120
cttggtcaag aagaggatcc gttcagttgg ttgggggagc ttagaatttt attttgttt        180
gctctcctca gtgtcccaag tagttggact ataggcacac accacacagc accacacctg       240
gcttgtttcc tttttaaaat ggtggctctt gtccttttg ggaagtgttt gggcacagag        300
gtactgatac tgttattctg gttttagaat aagaggctga tggaacctgc aggtaaggga       360
agagctttga cttggacaga gaagtggcca gcttcttaat aaaaagtggg taagatggag       420
gtgaaacttg gacacatgca atatctgaca ttgtaaatcc ttttttcttg tgaggctgga       480
ttttgttgct tcatatgtga taacagacca attatatcag tagttcaatg gtgatgttca       540
gtttaatctc ttttcctctc ttgtacagta ctcttgtttt agctttcgta aactctgggc       600
tttcaccgga ccaggttttc ttatgagcat tgcctacctg gatccaggaa atattgaatc       660
cgatttgcag tctggagcag tggctggatt taaggtgaac atctagtcct accctgtcc       720
ttttaagcac ataatacact ctcacatcct tttctccacc ctgcatgttg gatagtagcc       780
tcaggggcta catgcagata cttcattggc agtggctctt atgtgtaaag tactttccat       840
ttggtcttat ttttatccac atagtttcct tgaacaaagg agaaactaca tataggagaa       900
actgaggctc agaaaggtac aaggtgactt agcaggtcat gtgcaaaatc tgttatagaa       960
ctcaagtcat ttgattcttg acctgggctc ttttctgaat gcagtattta ccactcatgt      1020
tgccaaacaa ctaaacaaac aaacagacaa aaactcagtt gttcaatgag tgttacagga      1080
gattttgttc ttcttagttg ctctggatcc ttctgttggc caccttgtg gggctgctgc       1140
tccagcggct tgcagctaga ctgggagtgg ttactgggct gcatcttgct gaagtatgtc      1200
accgtcagta tcccaaggtg agcaatgtat tgtcctgttt gtctctcacc catgccatag      1260
gaatctgtgt gtctggcggt atgtgctggc ctcattctat agtgagacag tcaaggactt      1320
gggggtcagt ggccctgaag acagacggta ccaacggaaa tactgtagct cctcctgctg      1380
ccaggccatg ttttcccct ctttcaaaat ctaacttgag actcgcattt cctagaaggt       1440
tttcttagaa aaactgtgtt accattcact ctggcttcca gtatctagca atgcccagcc      1500
caaggggagg aggatgctct ctctaagcac ttttattcat acctccatgt tactccatca      1560
gtttgcattt tatatatgtt ctttttttgt ttgactttgc catcactttg aaaaagtaat      1620
tttttttctt tttagtacaa actatatgtg gcaagatctt tggatttgct aataattatt      1680
tttcagtttc ccctcccacc gggggctaca ctgtcctctg cagcttcttc tggacatttt      1740
gggccttttct taccgttgcc taaggcaaga atgaacacta tgtctggaag atattttaa      1800
```

2995

```
cttagttttg tctcttgttt tgtttctttt cctgggtgtg agcaaaaagt atccttatct   1860
gcttttcaaa aaaataaaaa aatcttgata atatccccat ttactctgat gtgattatta   1920
cacattttat gcctatatca aaatatccca tatgccccat aatatataca cctactatgt   1980
acccataaaa tttttaaaaa acaaacaaaa ccttggtaat ttataatcct tctagcttct   2040
ttttctttct ttcttcttat ttttttgagac ggagtctcac tctgtcaccc atggtggagt   2100
gcagtgatgt gatcatggct cactgcagcc ttgacctccc aggctcaagc gattctccca   2160
tctcagcctc ccaagtagct gggaccacag gcgagcacga ccacacccag ctaattaaaa   2220
tttttttttt tttttttttt gtggagatga ggtattgcta tgttgtctag gctggtctca   2280
aactcctggg ctcaggcagt cctcccacca cagcttctca aagtgctggg acgacaggca   2340
tgagccactg caccaagcct agcttctctt tcttcataca cgttaatagt tattttgtaa   2400
taataattat atatatatat atttgtttgt ttgtttgttt tgtttttttt tttgagacag   2460
aatctcactc tgttgcccag gctggagttc agagttcagt ggtgtgatct cagctcacta   2520
cagcctctgc ttcttgcagt gaggcgattc cagggattct cctgcctcag cctcctgact   2580
agcttggatt acagccacgt gccaccatct ggctaatttt tgtattttta gtagagatga   2640
ggttttacca tgttggtcag gctggtcttg aactcctggc cttaggtgat ctgccagcct   2700
tcgcctccca aagtgctggg attacaggca tgagccaccg tgcccagcct gcttttttgt   2760
ttgtttgttt gagacggagt ttcactcttt cacccaggct ggagtgcagt ggcgtgatct   2820
cagctcactg caacctccgc cttcagtttc aagtgattct cctgcctcag cctcccgagt   2880
agctgggatt acaggtgcct gccaccatgc ctggctaatt tttgtatttt tagtagagac   2940
ggggtttcac catgttggcc aggctggtct cgaactcctg accttgtgat ctgcccacct   3000
cggccttcca aagtgctggg attacagacg tgagccactg cgcctggcct tgttttggta   3060
tttttgagat ggagtctcac tctgttgccc agcctggagt acagtggcgt gatctcagct   3120
caccacaacc tccgcctctt gggttcaagc tattctcctg cctcagcctc ctgagtagct   3180
gggactacag gcgtgcatca ccacgcctgg ccaatttttg tattttagt agagatgagg   3240
tttcactatg ttggccagac tggtctcaaa ctcctgacct cgtgatctgc ccgccttggc   3300
ctcccaaagt gctgggatta caggcgtgag ctactcgcc tggctctgcc cttttttttt   3360
ttttttgaga ccaagtctcg ctttgtcacc caggctcggg tacagtggtg tgatcttggc   3420
ttactataac ctcaacctcc caggttcaag cgattctcct gtctcagctt cccgagtagc   3480
tgggattaca ggtgcgcacc accacaccca gctaattttt gtattttag tagagacagg   3540
gtttcaccat gttggccagg ctgatctcaa actccagacc tcaagtgatc cacttgcctt   3600
agcctctcaa agtgctggga ttacagatgt gagatactgt gcctggcctg ttttttgag   3660
ataggatctt gctctattac ccagactaga gttcagtggc acaatcatgg ctcactatac   3720
ccttgacctc ccaggcgcaa gcagccttcc tacctctgtc tcttgaatag ttgggaccac   3780
aggtgtgcac catgataccc agctattttt aaaatttttt gtagagacag ggttttgcca   3840
tgttgccaag gctgggcttg aactcctggg ctcaagtaat cctcccacct ctgcctccca   3900
aagttcaggg attataggtg tgaactacca tgggtgacct gacaaatttt ttggatgcta   3960
gctatctgga ggtgtttttt tctggcttca gtgagtcagc ataactaaat ctgattttca   4020
gctgtattgt ttggccagat aagtttctga ctttgttata tgccacccag ttccaaccat   4080
cttcccttga gtccttttgc atacgtgggc attattatta cattaaaggt gactccaacc   4140
ttttctgttg ttgtggtggt ggtttgttga gacagtcttg ctcttgtttg ttgcccactc   4200
tggagtgcag tggcatgatc atagctcact gcagccttga ccactgggc ttaggctgtc   4260
ctcctgcctc agcctcccaa gtagttggga ctacaggtgt atgccatcat gcctggatac   4320
ttttgtactt ttttttttc ctataatttt tatttaggt ttggagatgg atacatgtga   4380
aggttttttc tttctttctt tcttttttt ttttttttg tgaaagcaag tttattaaga   4440
acgtaaagga ataaagaaag gctattccgt aggcagagca gtcacatgtg aaggtttgtt   4500
acatagataa acacgtgtca tgggggtttg ttgtacatat tattacatca ccccgatatt   4560
aagcccaata cacaatagtt aacttttctg cttctctctc tccttccacc ctcccccatc   4620
aagtagaccc cagtgtctgt tgtttctgtc tgtgtgttca taagttctta tcattttgct   4680
cccaattttt atactttttg tagagatggg gttttgccat gttgcccagg ctggtctcaa   4740
actcctgggc ttaagggatc tacgttggca tcccaaagtg ctgagattac aggaatgagc   4800
cactgtgcct ggtccacccc aaccttttt ttttttttt gagatggagt ctcgctttgt   4860
tgtccaggct ggagtgcagt ggcgcaatct cagctcactg caaccttcgc ctcccgggtt   4920
caagcaattc tcctgcctca gcccctgag tagctgggat tacaggcatg tgccaccatg   4980
cccagctaat ttttgtattt ttagtagaga cggggtttcg ccatgttggc caggctgatc   5040
ttgaaccctg tcctcaggtg atccacctgc ctcagcctcc caaagtgctg ggattacagg   5100
tgtgagccac cgcgcccagc ctgaccccaa ccttttcatg tttgtttgt cttcccagct   5160
atggtcagga tagatatgtt cttctgcaat catttaatat tctttcttga cccatatttg   5220
gaccgtatta gcatccttat tctcctctaa actttttagg attgttttta ggaaattaag   5280
tggaagttag taaatggcaa ttatattctt ctcaagtaga aaggaaaaag aaaaaagtaa   5340
gatcaattac tgccttgacc ttcgttcaca ggttctgcca cgtggtagca cacttttcct   5400
tctccaggtg agagccacag tgcagtgatc ggccaagtgg aggcacgttc tggtatttct   5460
```

```
tctctagtct ggaggcttat aaaggactgt ttatggttta gtgccaaaat gtgaattcca  5520
aattgtggag gaatttttta gaaatgatta atcagaaccg tgtctttcta ctgtttgatg  5580
tttaggtccc acgagtcatc ctgtggctga tggtggagtt ggctatcatc ggctcagaca  5640
tgcaagaagt cattggctca gccattgcta tcaatcttct gtctgtagga aggtgagggg  5700
ttttcctcta gaaagtcatc agtgttttgc tggatttcca agcagagata aaaacaaaaa  5760
cccaattcat ttttaatttt gaagactcaa ctcaattgtt atttcttctg tggaaccttt  5820
ctggaaacaa tttcttctcc cctggtagat gtagactcta catcttccgt ttcccatggt  5880
gggttatgct tacctttatt agaatgtgtg gcgtttttgta tcgcaattat tgatttgtat  5940
gtcattttat cccgctagat actatctttt tattttattt tatttatttta ttttttgag  6000
acagagtctt tctccgtcac ccaggctgga gtgcagtggt atgatcttgg ctcactgcaa  6060
cctccgcctc ccaggttcaa gcaattcttg tgcctcagtc tcctgagtag ctgggattac  6120
aggcacctgc caccatgtcc agctaatttt tgtgttttta gtagagacgg gatttcacca  6180
tgttggccag ctggtctct aactcctgac ctcaggtcta ggaatgcccg cctcagcctc  6240
ccaaagtgct ggtattacag gcgtgagcca ctacacccag cccccactag atactatcta  6300
tctaatccta taaaattcta tctgtctaac tccatgaggg taagacccaa actttcagc  6360
tttgtatcct aagagtgaca tagtagactc tcaaagttta aatgaatgta attaagttga  6420
tgctgttacc ctactttacc caaggcctag ttttctgcca ttgtccctcc tccctcaagt  6480
cctagcttct ccaagtgttc tttatctgga gagctgttgg gaagagagtg tttttcaatg  6540
tttcctttct ttccgtctct ctgacttcca tatctcatct ctgacctaga attcctctgt  6600
ggggtggcgt tctcatcacc attgcagata cttttgtatt tctcttcttg gacaaatatg  6660
gtaaggagag cgggaatggg agggtcaaag gagctgctct ctgtcatgtg gcagatgggg  6720
aagtctacct tctctgagct cactgctgcc ttttttcctt taggcttgcg gaagctagaa  6780
gcatttttg gctttctcat cactattatg gccctacat ttggatatga ggcaagtggt  6840
acaggatatt cattagcttc ttaaaataag ttttgtggt ttttttttt agcctttat  6900
tataaaagac agtaataatg ctagtatgat tcacttatag tgggtgtatc aacaaaaagc  6960
caatttttcc ctgggccaat tttaaaggaa tatgatctat agcaaagatt agcatgcaga  7020
aaggcctgca ggggctccca ggtttaaaat gactagatat tttagggctt tccagactag  7080
attctttggt cccaagttga ccatctgaca acagaacagc catggatagt gttaattaag  7140
gaggggggttg cagggttatt cttgggtgtt aacttacagg agttctgctt ttgttcatcc  7200
tggtttatat taattgcagc ttgaactttc ccaatattaa aacagttaat gaattatatg  7260
aaatatactg gatatttcct ggttgtgcc ccaacccaga aactccttag agtcactaat  7320
attatttgca gtactagcac ctttctttgt acaattctta taaactgatt tctgcttact  7380
ggtctggctg aactttaaaa aatatatgta atctatgggt tgattatgcc tcttggccta  7440
aggcttccaa gagaaatact gaaccgggga agagtatata tgagagtgtt taaggatgag  7500
tctctcatta cacacgtact agtggcaaac agcaaatgat ttttaaatga acatgggtga  7560
acagaagtat gctcagtatg gataataaaa attgattcta tattcttttt taatttttag  7620
attttatttt atttatttat ttttgagcca gagcgttgct ctgtcatgta ggctagagtg  7680
cagtgggtgt gatcttggct cacttgcagc ctccgcctcc caggttcaag tggttcttgt  7740
gcctcagcct cccaagtagc tgggattatt ggcgtgtacc accatgcctg gctaactttt  7800
tgtatttta gtagagatgg ggtttctcta tgttggccag gctggtcttg aactgctgac  7860
ctcaagtaat ctgcccatct tggcctccca aagtgctagg atttcagctg tgagccactg  7920
tgcctggccc tggttgtata ttttgagcc ttgtggaatt actaataacc acaagtccct  7980
tagcagcttt ttcttttttc ttttcttttt tttttttga gatggagtct ccctctttcg  8040
cccaggctgg agtgcagtgg tgcgatctct gctcactgca acttccaccc ccaggttcaa  8100
gcgattctcc tgcctcagcc tcccacgtag ctgggattac gggtgcccgc caccgtgcct  8160
ggttaatttt tgtatttttc gtagagacgg ggtttcacta tgtttgccag ctggtcttg  8220
aactcctgac ctcaggtgat ccacccgcct tgacctgcta aagtgctagg attacaggcg  8280
tgagccacca tgcctggcct tttttttttt ttttttttt tttttgagac agagtctcac  8340
actattgcct atgctggagt tcagtggcac gatctcagct cacctcctgg gctcaagtga  8400
tccttccacc tcagcctccc tagtagctag tactataggt atgcaccacc acaccgaggt  8460
aattttgta gagataaggt tttgttgtgt tgtcaggctg ctcttgaact cctgggctca  8520
agcaatgcgc ctgccttggt ctcctaaagt gctgggatta taggcgtgag ccaccgcacc  8580
cagccctttc tttagaaatt aattatgtat catacacatc tgtttcatat atctaagatg  8640
tgttgtaaac tatccggata ctcagtcttg aattctctgg cccctaatag taagcccctt  8700
atgttgcttg gtcctatgat gattctgtat tcctcattat cttaggtagt tgcagaagaa  8760
aagattttgg ccaggtgtgg tggcctgtaa tcccagcact ttgggtggct gaggtgggaa  8820
gattgcttgt tcttgggaga ttgaggtttc agtgagtgt gatcatgcca ctgcattcca  8880
gcctgggtga cagagcaaga tcctatctca aaaaatataa aaataaggaa gaaggcattg  8940
taagggataa aggatgctaa ctgttccctg gtactatgtt actcccgttt cacgttcctg  9000
taaaggctaa tcattgttat gttggtatgt agtatgttac agtgaaaccc agccagagcc  9060
aggtactcaa gggcatgttc gtaccatcct gttcaggctg tcgcactcca cagattgaac  9120
```

2997

```
aggctgtggg catcgtggga gctgtcatca tgccacacaa catgtacctg cattctgcct    9180
tagtcaag                                                              9188


<210> 6094
<211> 100
<212> DNA
<213> Homo sapiens

<400> 6094
caccaccatg cctggctaat ttttctattt ttagtagaga tgtggtttca ccatgttggc    60
caggctggtc tcgaactcct gagctcaagc aatccacccg                         100


<210> 6095
<211> 9437
<212> DNA
<213> Homo sapiens

<400> 6095
aagtagaaga cagcggcgtt gccatggcgg cgtctctggg taggtagccg gccccgccct    60
tccatggatt tcccgaccct cgcctcgaat tcatttcctg ctccacatcc accctctaac    120
cccgacccct gctacaaccc cagaggccgg actcctggat tcatctccct agcttccctg    180
ggcctgcctt agccgccagt cgcagccgag gcgaagagag cgaaggaggg aagtggggc    240
ggctagctgg ggctagaagg ccaggagagg gcggggtggg cggccgtttg gggtgggggt    300
cagggtgact cactcgtctg cattcagggc aggtgttggc tctggtgctg gtggccgctc    360
tgtggggtgg cacgcagccg ctgctgaagc gggcctccgc cggcctgcag cgggttcatg    420
agccgacctg ggcccagcag ttgctacagg agatgaagac cctcttcttg aatactgagg    480
tgcgtctctg tgaaaggccc ctctctcggt ggagttgccg ccaagaattt ggtctttgga    540
gtcaaacagg tctgggtcag ccccaccact tactcactag aaattctcgg aaaagtcagt    600
tgtccttgag cctcagtttc atcatctgta aatggcgatt ataataataa ccatctgata    660
ggtcagttgc aggaattagg tgagatacgt agagcactta gcattaggcc tagaacatag    720
taagtgctca atctatggct gccattattc acattttatt gtgattcctt cagttacata    780
aggcaacatt tgtgagcctt tccagaggga gggcttgggg ctcaaattgg ccctgcaggg    840
gaggagttca gaggaggaag gctggagctg gaggacttgg ggaaggcttc ctggaggggc    900
tgacattggc ttcaaggcct tgcaggatgg gaactagcag aggtgaggga gagggtagtt    960
tgagcaaagg cacagacttc agtctgtttc cctctttgcc ctggaaggat cctccttaga    1020
gggattagtg ttctctgggt ccttataacc ctgcctccct ccaaggaaag acattcgcta    1080
ggagctcaaa gaaggcagtg ctgctcagtc aggccatcac actgactgca ggtttctcct    1140
ctttccagta cctgatgccc tttctcctca accagtgtgg atcccttctc tattacctca    1200
ccttggcatc gacaggtggg tcctggcttg gaactgttct gcttagtgtt tgaggccacc    1260
tggaagagtg attggggggg gcggggtgga gcttgaaaca cctcattccc atcagtgaga    1320
gagggctgac tagctctagt tccctcttac tatcctcttc tctgaacaag aggggcacag    1380
tgtgctggtt atgagtatgt tgctaggcac tggagttggt ttgaagcctg gcagtcatgt    1440
gtgaccagcg gaggaagaag gaaggttcat tttgctgtgc caagtgctgg ctttcacatt    1500
cttgcttcca ctgtgtgcta cctacctgac catgagcaag tcacccattt gagccttggt    1560
tttatatagt tggcttcata gcattgtgag gattaaattt aatgaatggg aaacatctag    1620
gagagtgcct ggcacacagt cagagctcca tatacataaa tttcctttct cttgacattt    1680
gtgactgccc tctactacgt cagatactgc actagtctta cacattattt aattccaatc    1740
atgactctgt aaagcagata tgattatctt agaaaatgaa gttgcaaaac tttgtgcaat    1800
ttcacctctc aagtcccaca ggatgtcagt gcagaaggat ttgaagccat atattaaaag    1860
tttatgctcg actgggcatg gtgactcacg cctgtaatcc cagcactttg ggaggccaag    1920
gagggcagat catttgaggt caggagttcg agaccagtct ggccaacatg ctgaaacccc    1980
gtctctacta aaaataacaa aattagttgg gtgtggtggt gtgtgcctgt agtcccagct    2040
acttgggagg ctgaggcgcg agaatggctt gaacctggga ggcggaggtt gcagtgagct    2100
gagatcatgc cactgcactc cagtccctgg gcaacagagc gagactctgt ctcaaaaaca    2160
gaaagaaaga aataatatgc acttatttaa agagtttgaa aacctctggc ctcatgcatt    2220
cactgctgtg gaagaatgct gaacccttga ccagctgact acaggtagcc attcaccaag    2280
ttttaatcaa attgcagttt taggttcttt ttatctcatt accctttctg cctgtatcct    2340
ttaatatcca tcctttctaa taaccagaac agtaataact atttatgaag catccacttc    2400
agccagggac tatccatgca ttatcacagt tcatcttacg acaacccaac aaaagaaatg    2460
```

2998

```
gtatactgtg accccctattt tacatgcggg gaaacaggtt gagtgtttga atatcctaac   2520
caagattgca agggaaactc agatctgcct cactccaatg ccctcacttt ccactgcacc   2580
gtgctgcatc cttcttccat ctactgttgc aaaccagacc ttagcagcca tgacactcct   2640
tgtaaggtat gtaaacttaa gaaggcagct ctgggcaggg cacagtggct caggcctata   2700
attccagcac tttttggaggc tgaggtgggc agataacctg agcctagaga tcaccctagg   2760
caacaacaac aacaaaaata cgaaaattaa ctgggcttgg tggtgtgtgc ctgtagtcct   2820
agctgctcag gaggctgagg tgggaggatc gcttgagctc aggaggttga ggctgcagtg   2880
agccttgacc tcaccactgc actccagcct gagcaacaga gagagaccct gtctcaaaac   2940
aacaacaaca aaaacgaaaa acaaccaaaa aagaaagcag ctctttgtaa gtggggttgt   3000
atcaatttct tagatgggta atgcctccat gctgggccct cccaggggat gaggagcagg   3060
acagtttgct cctttgcctc acacaggcga gccctgggag tgctgggaaa gaatttgctg   3120
aggagccagt gtgaacatct ggtctgcagt tgagtcttgt taccatggat aactcagctg   3180
attcgtccat tggtcttttt tatgtgtatg tggtgctttt tttttttttt tttgagacgg   3240
catttcgctc ttgttgccca agctggagtg caatggtgcg atcttggctc actgcaacct   3300
ccgcctccca ggttcaagtg actctccttc cttagcctcc ccactagctg ggattatggg   3360
catgtgccac cacgcctggc taattttgtt cttttgtttt tgtttttga gatggagcct   3420
tgctgtgtca cccaggctgg agtgcagtgg tgcaatctct ggtcactgca acctctgcct   3480
accaggttca agcaattctc ctgcctcggc ctcccaagta gctgggacta caggcatgca   3540
ccaccatgcc tggctaattt ttgtattttt agtagagacg gggtttcaca atgttggcca   3600
ggctggtctt gaactcctga cctcaaatga tccacccgcc tcggcctccc aaagtgctgg   3660
gattacaggc gtgagccacc acccagcc taatttgta ttttcagtag agacggggtt   3720
tctccatgtt ggtcacgctg gtctctaact cccaacctca ggtgatccgc ccgtctcagc   3780
cttccaaaat gttgggatta caggcatgag ccactgcgcc tggctgtggc tcttttttg   3840
atgtgataag aacacttaac aggagatcta ccctcaacaa atttaagtt aactccatta   3900
gtcttttct tttttttttg agacagagtt tcactcttgt ttctcaggct ggagtacagt   3960
ggtgtgatct tggctcagtg caacctctgc ctcctgggtt caagcgattc tcctgtctca   4020
gcctcctgag tagctgggat tacaggcgtc cgccactatg cctggctaat ttttggtatt   4080
tttagtagag acgggggttc accatgttgg ccaagctggt cttgaactcc tgacctcagg   4140
tgatccgccc gcctcagcct cccaaagtgc tgggattaca ggcgtgagcc accctgcacc   4200
cagccaactc cattactctt tttcaagttt gcttattggc agtcagcccc ttggaacttc   4260
aaaattaagg aacagatcct gggctatgat gccctctacc cacaccacag gtccagccca   4320
atgtcctgaa caggtcctgc tccttccttc tgacactttt tattttaac tccataaggc   4380
ctgagcttgg gctgaaacag aaacaaaatg tgcttcatct gatgttctgc tctgtctata   4440
tccacagttt aataacggcg caggctttgg agtcaggcaa gccttggttt aaatcctcaa   4500
cttgccttag tttatgtgac ttctttgagc ctttgtttct tttacgcaaa atggtgataa   4560
tccccttctt gcagtgttgt gaaaactgag atatgtacac aaagcaccta ggccatggta   4620
tgtgcttaat aaatggtggc tgtgcttggt gttacctgac tctctactca tccctttggga   4680
tttgggtgcc tgcctgtccg tccagatgtc cttgagatct cacgagttct cttttgagtgc   4740
aaagacctca ttctcattat caaaccaggc tggtcccaga cctcagagtt caggtcttca   4800
tgctggaatc ctgggaagca ctgaacgtgg agtcaggaga tgtgggtttg agtcctgaga   4860
tttgctgtga cttcatctgg aagatggggt tttgatacct tttttaaagg tatgaaatga   4920
tgatgatgga agtgtttttgt gcctagaaag gcatttgttg catctcaggc attcttttca   4980
ttctgaccac ccagatctga ccctggctgt gcccatctgt aactctctgg ctatcatctt   5040
cacactgatt gttgggaagg cccttggaga agatattggt ggaaaacgta agttagacta   5100
ctgcgagtgc gggacgcagc tctgtggatc tcgacatacc tgtgttagtt ccttcccaga   5160
acccatctcc ccagagtggg tgaggacacg gccttttccc atcctgccct ttcctctgca   5220
gctgtttttgc ttccttgtgg ccatcagagt tcccttcccc tggacagtct ggagaaagac   5280
agaggctggg gtttgggatt gaagaccaga ccccatctga gcccttcctc cagccctgta   5340
ccagctccta ctggcatggc tgagctcaga ccctcctgat ttctgcctat tatcccagga   5400
gcagttgctg gcatggtgct caccgtgata ggaatttcac tctgcatcac aagctcagtg   5460
agtaagaccc aggggcaaca gtctacccctt tgagtgggcc gaacccactt ccagctctgc   5520
tgcctccagg aagcccctgg gccatgaagt gctggcagtg agcggatgga cctagcactt   5580
cccctctctg gccttagctt cctcctctct tatgggggata acagctacct catggatcac   5640
aataagagaa caagagtgaa agagtttttgt aaccttcaag tgctgttcag ctgcggggat   5700
ttagcacagg agactctacg ctcacccctca gcaacctttc tgccccagca gctctcttcc   5760
tgctaacatc tcaggctccc agcccagcca ccattactgt ggcctgatct ggactatcat   5820
ggtggcaggt tccatggact gcagaactcc agctgcatgg aaagggccag ctgcagactt   5880
tgagccagaa atgcaaacgg gaggcctctg ggactcagtc agagcgcttt ggctgaatga   5940
ggggtggaac cgaggggaaga aggtgcgtcg gagtggcaga tgcaggaaat gagctgtcta   6000
ttagccttgc ctgccccacc catgaggtag gcagaaatcc tcactgccag cccctcttaa   6060
acaggtagag agctgtgagc cccagcccca cctgactcca gcacacctgg cgagtagtag   6120
```

```
ctgtcaataa atctatggta aacagacaag aggttagtaa gtattctttt attgtgacaa     6180
accctctccc aggcttagtc agctactcct ttctctggcc agagaatccc ataaggaaat     6240
agcccccaca gccagggctg ctctgctcag aggaagggaa ggctgggctg tgggtttagg     6300
agcaggagaa cggggagggc tgaggaggcc gcagtgtacc ctgtgagccc agcggaggtg     6360
ctggctcctg aggaacaagc tgctggaggc taaggacaaa aggtggccag agtagtggtc     6420
cccagttgcc ctctggagct gctggctctc aagatggcag agctggggct gaggctgaga     6480
tagcagcccc agccccaggc tggttttcca gggacaaggc ctcttccact atctgtgctg     6540
ccctctgcag gaggtggaag gccatacaga atggagccgt gagtatggcc agcctccagc     6600
tctcagccag gaggtcccca accccaagga aggaagaaac tggaaattag gaactgcttc     6660
ctcatttaac aaggtaggaa gttaggagat catttacttt caatcacaag ggaggagaac     6720
tgttcctggg gcccaaggct gccagtttcc agctcagagc tcctcccacc ccaacatact     6780
gtttcctgat ccaacagctt acctgatcca agggctcctc tgtctgagtg tcttcatcat     6840
ctgctacttc cagggccccc gctgtctcct tccttcggtg gggagctcca tatactccta     6900
taactcctaa agaggggagg cagcactggg tgatgcccag gctgaagagc cctcagcatt     6960
cctgccctgg accttcatgc tagccccttt ccctcccctg aacctggttc tgcattcccc     7020
accacctccc aggatggcaa ggaagtgaga ggtgggcctt tggtcccacc cccatcccct     7080
ctatatccca cccctgaagt cttatcgctt taagcactgc cctttccagg tgcttctttt     7140
catgtgatga ggccctgtga agaagggaca ggatatacag acgggggcag ctggagacag     7200
ttatgatgag gtcagtacca gctttttttt tttttacggg cagtctcctg agccacagta     7260
ggttcagact cctttatctt ttttttttttt ttccagtgcc ggctttgtgt ctgagcattc     7320
tgctcccatg gacatcccca acaacagcag ggaccaacct atgtcactgt caaagggcag     7380
ctgagaaggg cctgagcccc agggacccct cacctgatgg gaatgagagt gtggggagct     7440
tgcttcttgg ctgaatggtc tgctggggtc tggcatagaa agcagatggc ttaattcggt     7500
ctggttcctt tggagagggc tgggttacct gggccctgtg gccttgggcc tagagaaggg     7560
acactgggct tggaccctga ttgctggcca ttcttacctt tcctactccc cagttcaggc     7620
ttcagagagc ccctgacgcc tgcaggaaca tggcagagga gacaccgtct gtcttcacaa     7680
agtacgtcct ccctccttgc tgcctcttcc caccagcctg acttatccag ggacagagca     7740
gtagatgcct ggcactcctc gatgcccagt gaaaccagac tgtgcttccc cacccccacc     7800
accatgcccc atgctcactg gctcatttct tgggagggct tagagctgga taatataagt     7860
tcccttggac cctgctgtgc caaatatacc aattctctct cccagcgtcc aacctagcaa     7920
gaaggtatta agtcctgcaa atcagatgag aattctggtc tggcccctgc cactcaataa     7980
ctctgtcacc ctgaacaaat cacttcactt tttttttttt tttttttttt tttgagactt     8040
gagtcttact ctctcaccca ggctggagtg cagtggtgtg atctcagctc accacaacct     8100
ccgcctccca ggttcaagtg attctcctgc ctcagcctcc caagtagctg ggactacaag     8160
cacccaccac catgcccagc taatttttttt gtactttttag tagagatggg gtttttaccat     8220
gttggccagg ctggtcttga actcctgacc tcaggtaatt cactctcctc agcctcccaa     8280
agtgctggga ttacacgtgt gagccatcgt gcccaaggcc cacttcactt ttcagcttca     8340
gtttccacct ctggaaaatg gggataatct ttctttcaca agattattaa gagtggccag     8400
gcgaggtggc tcacgactgt aatcccagca ctttgggagg ctgaggtggg cagatcacct     8460
gagggagttt gagaccagcc tgaccaacat ggagaaaccc tgtctctact aaaaattaaa     8520
aaaattagcc gggtgtggct gagcgcggtg gctcacgcct gtaatcccag cactttggga     8580
ggctgaggtg ggctgatcac gaggtcagga gatcgagacc atcctggcta cacggtgaa     8640
accccgtctc tactaaaaat acaaaaaaaa ttaaccgggc atggtggtgg gtgcctgtag     8700
tcccagctgc tcgggaggct gaggcaggag aatggcatga acccgggagg cggagctggc     8760
agtgagccaa gattgcgcca ctgcattcca gcctgggcaa cagagcgaga ctccatctca     8820
aaaaaaaaaa aaaaaaaaaa aattagccgg gtgtggtggc acatacctgt aatcccagct     8880
actcgggagg ctgaggcagg agaatcactt gaacccagaa ggtggaggtt gcagtgagct     8940
gagattgtgc tattgcactc cagcctgagc aacaagagtg aaactccgtc tcaaaaaaaa     9000
aaaaaaaaat tattaagagg atgcaggctg ggcatagtgt aatcacagca ctttgggagg     9060
ccaaggtggg aggattgctt gagcccagga gttcaagacc agccttcgca atatcgtgag     9120
actcatctct atatttaaaa gaaaaaagga ggccgggcac ggtggctcac gcctgtaatc     9180
ccagcacttt gggaggctga ggcggggcaga tcacaaggtc aggagttcaa gaccagcctg     9240
gccaacatgg tgaaacccca tctctactaa aaatatacaa aattagctgg atatggtgga     9300
gcgtgcccat aatcccagct actcaggagg ctgaggcagg agaattgctt gaaccgggac     9360
ctgggaggcg gaggttgcag tgagccaaga tcctgccact gcactccagc ctggactaca     9420
gagcaagact ctgtctc                                                  9437
```